# CURTIS'S
# BOTANICAL MAGAZINE,

ILLUSTRATING AND DESCRIBING

**Plants of the Royal Botanic Gardens of Kew,**

AND OF OTHER BOTANICAL ESTABLISHMENTS;

BY

SIR JOSEPH DALTON HOOKER, M.D., C.B., G.C.S.I.,
F.R.S., F.L.S., ETC.,

ASSISTED BY

WILLIAM BOTTING HEMSLEY, F.R.S., F.L.S., ETC.

## VOL. LX.
## OF THE THIRD SERIES.
*(Or Vol. CXXX. of the Whole Work.)*

> "Bind me, ye woodbines, in your twines,
> Curl me about, ye gadding vines,
> And oh! so close your circles lace,
> That I may never leave this place:
> But, lest your fetters prove too weak,
> Ere I your silken bondage break.
> Do you, O bramblers, chain me too,
> And, courteous briars, nail me through!"
> MARVELL.

LONDON:
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To

## WILLIAM WATSON, A.L.S., F.R.H.S.,

*Curator, Royal Botanic Gardens, Kew.*

DEAR MR. WATSON,

The dedication to you of the last volume of the Botanical Magazine which I am privileged to conduct, gives me the welcome opportunity of expressing my sense of the value of the services which you have rendered to this work during your Curatorship of the Royal Botanic Gardens. This is due to the skill and knowledge which you have devoted to raising and flowering an unprecedentedly large proportion of the rare, interesting and beautiful plants portrayed in the last twenty volumes of the Magazine, and to the valuable information which you have so often given me of the habits, history and mode of culture of these and of many other species whose portraits accompany them.

In conclusion, let me congratulate you on the recognition you have so fairly earned as an authority on the culture of Cacti, Palms, Aloes, Agaves and other large groups of plants, in your study of which you have displayed as accurate a knowledge of their physiological characteristics as of their requirements under cultivation.

Believe me,

Very sincerely yours,

JOS. D. HOOKER.

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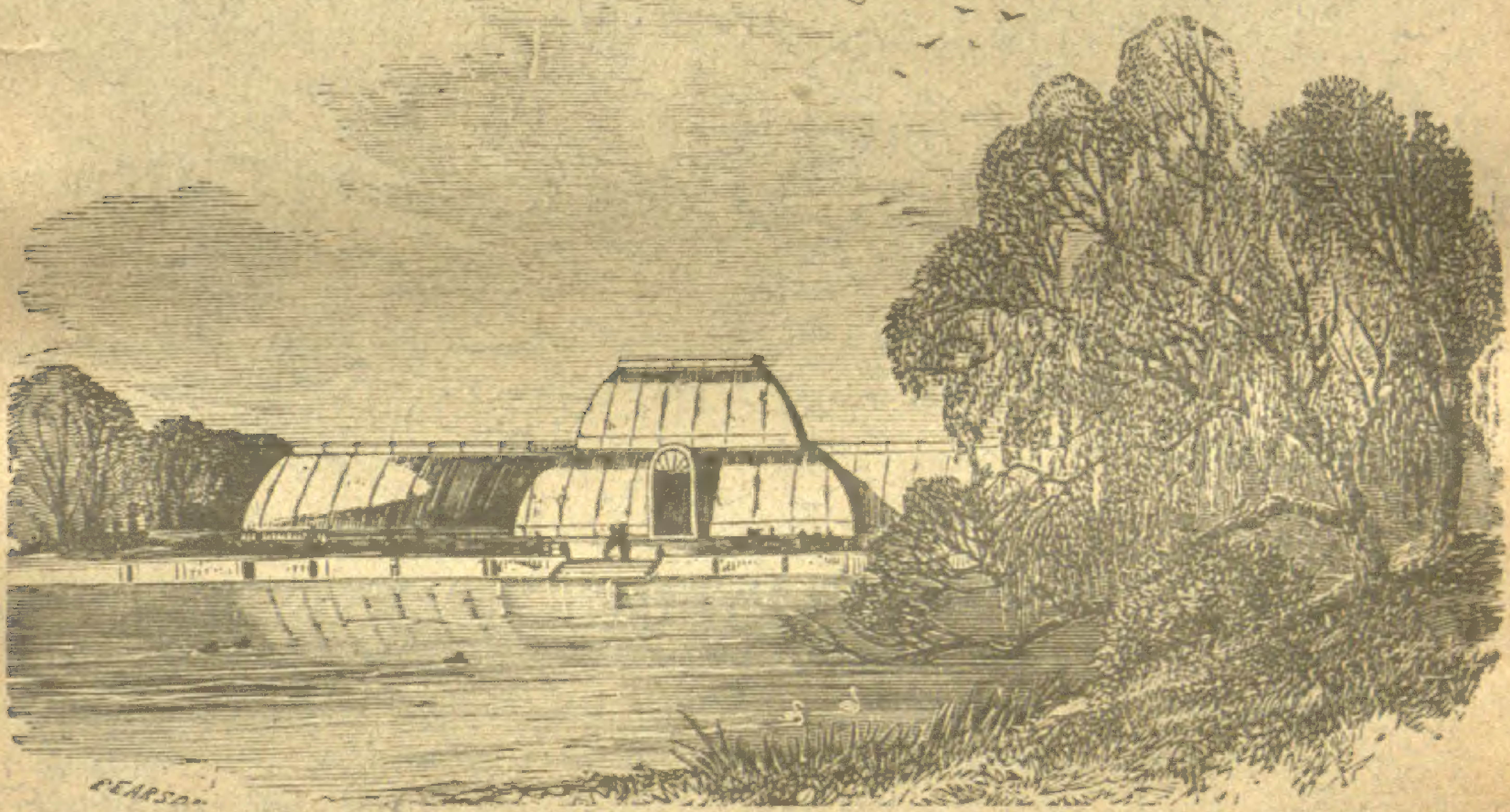

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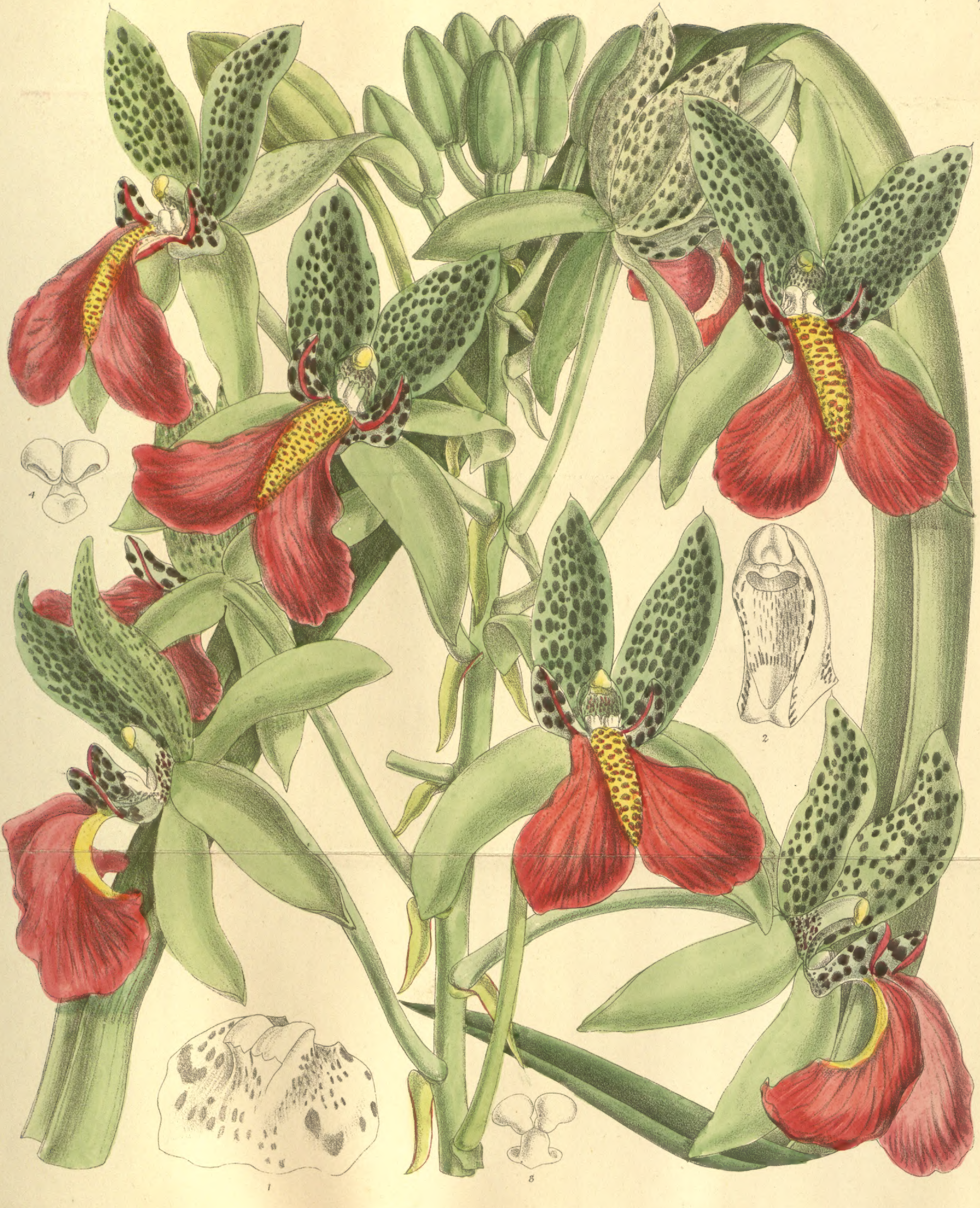

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# TAB. 7932—7933.

# CYMBIDIUM RHODOCHILUM.

*Native of Madagascar.*

---

Nat. Ord. ORCHIDEÆ.—Tribe VANDEÆ.

Genus CYMBIDIUM, *Sw.*; (*Benth. et Hook. f. Gen. Plant.* vol. iii. p. 536.)

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CYMBIDIUM *rhodochilum*; herba, ut videtur, semper in arboribus excelsis supra *Platycerii madagascariensis* caudices crescense, pseudobulbis fasciculatis oblongo-conicis 3–5 poll. longis demum nigropurpureis, foliis 8–10 distichis loriformibus 2–3 ped. longis acutis flexilibus recurvis atroviridibus, scapis simplicibus solitariis infra pseudobulbos enatis erectis folia fere æquantibus multifloris (scapus solus visus 20-florus), bracteis lanceolatis acutis deflexis quam pedicellis brevioribus, pedicellis cum ovario circiter 3-pollicaribus, floribus sanguineo-viridibus splendidis circiter 4 poll. diametro maximo, sepalis oblongo-lanceolatis pallide viridibus reflexis circiter bipollicaribus, petalis sepalis similibus erectis apiculatis maculis atroviridibus conspersis, labello trilobo lobis lateralibus margine sanguineo excepto petalis concoloribus et 4-plo brevioribus, lobo intermedio obcordato circiter 2 poll. diametro sanguineo medio luteo viridi-maculato.

C. rhodochilum, *Rolfe, Orchid Review,* vol. ix. (1901) p. 10; x. (1902) p. 184 (*descriptio*). *Le Jardin,* 1901, p. 276, fig. 133; 1902, p. 351. *The Garden,* 1902, vol. i. p. 383 *cum habitus figura.*

---

It will be generally admitted that *Cymbidium rhodochilum* is one of the most striking of recently introduced Orchids. It is still very rare in cultivation, and the plant figured was purchased for Kew from Mr. G. Warpur, the discoverer, in 1900. Mr. Warpur states (*Orchid Review,* vol. ix. p. 10) that it always grows on masses of *Platycerium,* on the branches of tall trees, mostly of *Albizzia fastigiata,* Oliver, along the rivers and on the higher forest-slopes, at elevations of 1,800 to 2,100 feet. He adds that it seems to prefer a moderate degree of heat and humidity, and much light. In its native country it flowers from October to December, but the Kew plant flowered in May.

The Kew plant is still attached to, and growing on the *Platycerium,* as it was imported.

Only two other species of *Cymbidium* have been recorded from Madagascar, namely, *C. flabellatum,* Lindl., and *C. Humbloti,* Rolfe; both very different from *C. rhodochilum.* On the authority of Mr. Warpur, *C. Humbloti,*

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which is also in cultivation, invariably grows in a wild state on a palm, *Raphia madagascariensis*.

With regard to *C. rhodochilum* always growing on *Platycerium*, itself an epiphyte, it may be mentioned that it is not at all unusual for one epiphyte to grow on another, but it is rare for the associated plants to be constantly the same. The same phenomenon is, however, not unknown among true parasites. For example, so far as is known, all the species of *Phacellaria*, a small genus of shrubby parasites belonging to the *Santalaceæ*, are parasitic on different species of the equally parasitic genus *Loranthus*.

*Descr.*—A tall, epiphytic herb. *Pseudobulbs* clustered, oblong-conical, three to five inches long, at length purple-black. *Leaves* about eight to ten on a pseudobulb, distichous, strap-shaped, two to three feet long, acute, flexible, recurved, dark green. *Scapes* simple, solitary, from below the pseudobulbs, nearly as long as the leaves, many-flowered. *Bracts* lanceolate, acute, deflexed, shorter than the pedicels. *Pedicels* with the ovary about three inches long. *Flowers* crimson and green, very striking, about four inches in their greatest diameter. *Sepals* oblong-lanceolate, pale green, reflexed, about two inches long. *Petals* similar to the sepals, erect, apiculate, besprinkled with dark green spots on a light green ground. *Labellum* three-lobed; lateral lobes, except the crimson margin, of the same colour as the petals, and about a quarter as long; intermediate lobe obcordate, about two inches in diameter, crimson, with a central, longitudinal, yellow band, spotted with green.—*W. B. H.*

---

*Tab.* 7932.

Fig. 1, part of lip; 2, column; 3 and 4, pollen-masses:—*all enlarged.*

*Tab.* 7933.

Sketch of entire plant growing on *Platycerium*:—*about one quarter natural size.*

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# TAB. 7934.

# PROSTANTHERA DENTICULATA.

*Native of Eastern Australia.*

---

Nat. Ord. LABIATÆ.—Tribe PROSTANTHEREÆ.

Genus PROSTANTHERA, *Labill.*; (*Benth. et Hook. f. Gen. Plant.* vol. ii. p. 1217.)

---

PROSTANTHERA *denticulata*; frutex ramosus, paucipedalis, hispidulus, floribundus, caulibus ramisque oppositis gracilibus rectis, foliis brevissime petiolatis rigidis lineari-lanceolatis maximis vix pollicaribus vix acutis margine rigide setosis nec vere denticulatis supra hispidis subtus fere levibus, floribus purpureis in ramulorum apicibus subracemosis in foliorum aut bractearum axillis solitariis brevissime pedicellatis, bracteolis 2 fere filiformibus juxta calycem positis et quadruplo brevioribus, calyce hispidulo alte et fere æqualiter bilabiato, labiis rotundatis superiore majore margine basi recurvo, corolla glabra valde inæqualiter bilabiata circiter 6 lin. diametro maximo, tubo brevi basi cylindrico subite inflato, labio superiore erecto breviter bilobato lobis obscure 3-lobulatis, labio inferiore recto inæqualiter 3-lobato lobis lateralibus ovato-rotundatis lobo intermedio longiore obcordato, staminibus 4 inclusis, filamentis glabris, antheris 2-locularibus loculis basi in caudam brevissimam productis connectivo etiam basi producto, stylo incluso, nuculis ovoideis punctatis.

P. denticulata, *R. Br. Prodr. Fl. Nov. Holl.* p. 509. *Benth. in DC. Prodr.* vol. xii. p. 561; *Fl. Austral.* vol. v. p. 97. *Moore, Handb. Fl. N.S. Wales*, p. 351.

---

*Prostanthera denticulata*, R. Br., is a member of a tribe of the *Labiatæ*, consisting of five genera, and about 100 species, mostly shrubby, restricted to Australia. *Prostanthera* itself comprises about forty species, spread all over Australia, except the extreme north, and *P. denticulata* has a wide range on the eastern side of the country. Some of the species are described as tall shrubs, but they are mostly bushes, three to six feet high.

The plant figured was raised from seed sent to Kew by Mr. J. H. Maiden, Director of the Botanic Gardens, Sydney, N. S. Wales, in 1900. It is in the Temperate House, and is now about three feet high, growing and flowering freely, beginning in April.

Altogether some half-a-dozen species of *Prostanthera* have been in cultivation, mostly early in the last century, when "hard wooded" plants were more in vogue. The species figured was originally introduced in 1824.

Three have previously been figured in the Magazine, namely: *P. lasianthos*, Labill. (t. 2434); *P. empetrifolia*, Sieb. (t. 3405), and *P. nivea*, A. Cunn. (t. 5658). Another species, *P. violacea*, R. Br., is figured in the "Botanical Register," t. 1072.

*Descr.*—A much-branched, free-flowering, hispid shrub, a few feet high. *Stems* and the opposite branches slender, straight. *Leaves* very shortly petioled, stiff, linear-lanceolate, the largest scarcely an inch long, subacute, margin beset with short, rigid bristles, but not toothed, hispid above, naked below. *Flowers* purple, subracemose, solitary in the axils of the leaves or bracts. *Pedicels* very short, bearing two very short, filiform bracteoles close under the calyx. *Calyx* hispid, deeply two-lipped; lips almost equal, rounded, the upper slightly larger, with the margin recurved near the base. *Corolla* glabrous, very unequally two-lipped, about half an inch in its greatest diameter; tube very short, cylindrical at the base, then suddenly inflated; upper lip erect, shortly two-lobed, lobes obscurely 3-lobulate; lower lip straight, unequally 3-lobed, lateral lobes ovate-rotundate, intermediate longer, obcordate. *Stamens* 4, included; filaments glabrous; anthers 2-celled, cells produced at the base in very short tails; connective also produced at the base. *Style* included. *Nutlets* ovoid, pitted.—*W. B. H.*

---

Fig. 1, a leaf; 2, calyx and style; 3, corolla; 4 and 5, anthers; 6, fruit:—*all enlarged.*

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# TAB. 7935.

# ARETHUSA SINENSIS.

*Native of Western China.*

---

Nat. Ord. ORCHIDEÆ.—Tribe NEOTTIEÆ.

Genus ARETHUSA, *Linn.* (*Benth. et Hook. f. Gen. Plant.* vol. iii. p. 614.)

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ARETHUSA *sinensis*; herba terrestris, tuberosa, scaposa, 4–9 poll. alta, glabra, tubere parvo subgloboso, foliis 3 vel 4 inferioribus vaginiformibus vel laminis parvis instructis 2 vel 3 superioribus lanceolatis acutis maximis in exemplariis cultis 6 poll. longis et 1½ poll. latis in exemplariis sylvestribus fere dimidio minoribus multinerviis tenuibus, scapis solitariis erectis 1–7-floris folia paullo excedentibus infra flores nudis, bracteis membranaceis lineari-lanceolatis 2–3 lin. longis acutis, pedicellis circiter 3–4 lin. longis, floribus albo-rubris 9–12 lin. longis nutantibus, sepalis petalisque lanceolatis acutis erecto-incurvis labello paullo brevioribus, labello erecto indiviso e basi angusta columnæ brevissime adnato sursum valde dilatato marginibus involuto fimbriato intus longitudinaliter trilamellato lamellis fimbriatis, columna clavata labello dimidio breviore.

A. sinensis, *Rolfe in Journ. Linn. Soc.* vol. xxxvi. p. 46. *Orchid Review*, 1896, p. 211.

---

The history of the introduction of this interesting little Orchid is obscure. It was first sent to Kew by the Editors of the "Gardeners' Chronicle" in May, 1896, and in June of the same year it was received from Sir Trevor Lawrence, without any indication of its origin. Sir Trevor sent it again in June, 1900, when he exhibited it at a meeting of the Royal Horticultural Society. Subsequently Mr. Rolfe identified these cultivated fragments with specimens collected by Dr. A. Henry near Mengtze, in the Province of Yunnan, Western China.

The plant figured was presented to Kew by Mr. H. J. Elwes, F.R.S., and it flowered in a greenhouse in July of last year, under ordinary treatment.

*Arethusa*, as now limited, comprises four other described species; one is native of Japan, one of Mexico, one of Guatemala, and *A. bulbosa*, Linn. (Bot. Mag. t. 2204), the species on which the genus was founded, is a native of North America.

*Descr.*—A terrestrial, tuberous, scapose, glabrous herb, four to nine inches high. *Tuber* small, ovoid or globose. *Leaves* two or three, lanceolate, acute, the largest six inches long and one and a half broad, thin, many-nerved, with three or four lower ones almost reduced to sheaths. *Scapes* solitary, erect, 1–7-flowered, scarcely taller than the leaves, naked below the flowers. *Bracts* membranous, linear-lanceolate, acute, two to three lines long. *Pedicels* about three lines long. *Flowers* white and red, nine to twelve lines long, nodding. *Sepals* and petals lanceolate, acute, erect, incurved, slightly shorter than the labellum. *Labellum* erect, undivided, narrow at the base, obscurely saccate, almost free from the column, much widened upward, with involute, fimbriate margins and three longitudinal, fringed crests on the upper surface. *Column* clavate, about half as long as the labellum.—*W. B. H.*

Fig. 1, labellum and column; 2, labellum laid open; 3, column; 4, clinandrium; 5, pollen:—*all enlarged.*

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# TAB. 7936.

# PASSIFLORA VITIFOLIA.

*Native of Tropical America.*

Nat. Ord. PASSIFLORACEÆ.—Tribe PASSIFLOREÆ.
Genus PASSIFLORA, *Linn.*; (*Benth. et Hook. f. Gen. Plant.* vol. i. p. 810.)

PASSIFLORA (§ Granadilla) *vitifolia*; species *P. quadriglandulosæ*, Rodsch. (*Tacsonia sanguinea*, DC., Bot. Mag. t. 4674) simillima, sed bracteolis amplis coloratis et florum colore intensiore sat distincta; caulibus graciliusculis debilibus ope cirrhorum simplicium alte scandentibus, novellis plus minusve tomentosis in sicco sæpe ferrugineis, foliis petiolatis (interdum longe) demum coriaceis glabrescentibus sæpissime ultra medium trilobatis, interdum lobis 2 basilaribus parvis additis, maximis 6–7 poll. diametro basi cordatis, lobis ovato-oblongis acutis grosse crenato-dentatis vel foliorum superiorum denticulatis, pedunculis quam foliis brevioribus, bracteolis coloratis venosis glanduloso-dentatis circiter pollicaribus involucrum prope calycis basin formantibus, floribus cum cirrhis in foliorum axillis solitariis in exemplariis nonnullis sylvestribus usque ad 6 poll. diametro sanguineo-coccineis, tubo circiter 5 lin. lato altoque extus 10-sulcato, sepalis petalis similibus oblongo-lanceolatis dorso infra apicem cornutis, cornu viridi, corona exteriore (fauciali) filamentosa triseriata erecta filis seriei primæ liberis sanguineis quam petalis dimidio brevioribus, filis seriei secundæ etiam liberis quam exterioribus tertia parte brevioribus, filis seriei tertiæ albis alte connatis quam intermediis paullo longioribus, corona intermedia (operculo) membranacea e floris tubo versus apicem emergente deflexa deinde ascendente tubum brevissimum apice fimbriatum formante, corona interiore (vel disco nectarifluo) squamis parvis denticulatis consistente, gynandrophoro circiter 2 poll. alto viridi sanguineo-maculato, antheris viridibus, ovario viridi, stylis brevibus sanguineis, stigmatibus amplis disciformibus, fructu ignoto.

P. vitifolia, *H. B. K. Nov. Gen. et Sp.* vol. ii. (1817) p. 138. *Masters in Mart. Fl. Bras.* vol. xiii. pars 1, p. 607, t. 121; *Trans. Linn. Soc.* vol. xxvii. (1871), p. 637. *Karst. Fl. Colomb.* vol. i. p. 103, t. 51 (var. bracteosa). *Hemsl. in Salv. et Godm. Biol. Centr.-Amer. Bot.* vol. i. p. 481.

P. sanguinea, *Sm. in Rees's Cyclop.* vol. xxvi. (1819), n. 45.

P. punicea, *Ruiz et Pav. ex DC. Prod.* vol. iii. p. 329.

P. servitensis, *Karst. in Linnæa*, vol. xxx. p. 163.

Tacsonia Buchanani, *Lem. in Illust. Hort.* vol. xiv. (1867), t. 519.

P. Buchanani, *Planch. et Triana in Ann. Sc. Nat.* 5me série, vol. xvii. p. 144.

---

*Passiflora vitifolia*, H. B. K., appears to have been first introduced into Europe from Panama in 1851; but it has never got into general cultivation, probably because it requires tropical treatment to produce its magnificent flowers. At Kew it is cultivated both in the Palm House and the old Lily House, where it flowered in June, 1903. It is certainly one of the most brilliantly coloured species in a genus abounding in gorgeous forms.

It has a wide distribution in tropical America, ranging

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from Nicaragua to Peru, Guiana and Brazil, and from sea-level in Nicaragua to 3,000 feet in Colombia, where Lehmann (n. 1268) observed stems forty feet long.

In the Kew Herbarium there are dried specimens of flowers of this species from Panama (Fendler, 118) fully six inches across.

*Descr.*—A tall shrubby climber similar to *P. quadriglandulosa*, Rodsch. (*Tacsonia sanguinea*, DC., Bot. Mag. t. 4674), but differing in the less diversified foliage, large coloured bracts and the deeper colour of the flowers. *Stems* slender, tomentose, as well as the leaves, when young. *Leaves* petiolate, at length coriaceous, glabrescent, usually deeply three-lobed, sometimes with two additional small, basal lobes, cordate at the base, the largest six to seven inches in diameter; lobes ovate-oblong, acute, coarsely crenate-dentate or only denticulate. *Peduncles* shorter than the leaves. *Bracteoles* 3, coloured, veined, glandular-dentate, about an inch long, and forming an involucre close under the flower. *Flowers* solitary with solitary, unbranched tendrils in the axils of the leaves, five to six inches in diameter, crimson-scarlet. *Tube* about half an inch across and deep, ten-furrowed. *Sepals* similar to the petals, oblong-lanceolate, furnished with a short, green, dorsal horn, just below the tip. *Outer corona* filamentose, in three series; filaments of the first series free, crimson, half as long as the petals; filaments of the second series also free, shorter than the outer or first series; filaments of the third series white, united in a tube to above the middle, somewhat longer than the second or intermediate series. *Intermediate corona* membranous, emerging from near the top of the flower-tube, deflexed, and then ascending, forming a very short tube, fringed at the top. *Inner corona* (or honey-secreting disk) consisting of small, dentate scales. *Gynandrophore* (column bearing the stamens and ovary) about two inches long, green, spotted with crimson. *Anthers* green. *Ovary* glabrous, green; styles short, crimson; stigmas large, circular, compressed. *Fruit* unknown.—*W. B. H.*

---

Fig. 1, a bracteole; 2, a section through the coronas; 3, a portion of the intermediate corona; 4, a portion of the inner corona or disk; 5 and 6, ventral and dorsal view of an anther:—*all enlarged.*

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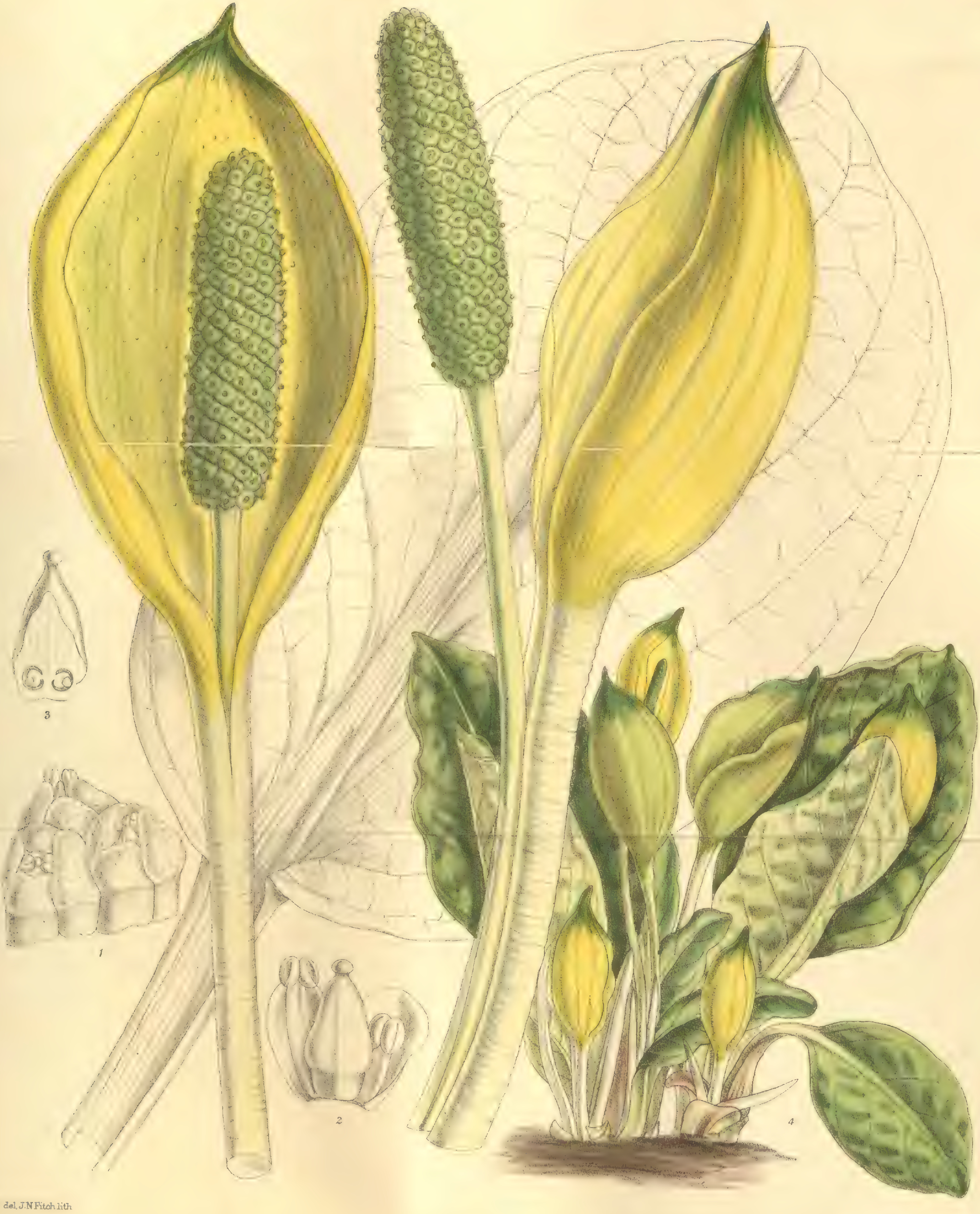

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# TAB. 7937.

# LYSICHITUM CAMTSCHATCENSE.

*Native of N.E. Asia and N.W. America.*

---

Nat. Ord. AROIDEÆ.—Tribe ORONTIEÆ.

Genus LYSICHITUM, *Schott*; (*Benth. et Hook.f. Gen. Plant.* vol. iii. p. 994.)

---

LYSICHITUM *camtschatcense*; herba paludosa, robusta, rhizomate repente, foliis amplis 1–3 ped. longis sessilibus v. crasse petiolatis oblongo-ovatis v. -lanceolatis acutis obtusisve crasse coriaceis læte viridibus petiolo lato concavo, nervis gracilibus arcuatis, pedunculo crassitie digiti minoris, cataphyllis paucis primum involutis albis, spatha 4–6 poll. longa cymbiformi acuta membranacea flavida basi in pedunculum longe producta spadicem juniorem totum includente, demum stipitem ejus valde elongatum inferne involvente denique decidua, spadice longe stipitata 2–3 poll. longa ½–¾ poll. diam. cylindracea apice rotundata densiflora sursum florente floribus omnibus fertilibus densissimis, perianthii segmentis 4 inæqualibus crassissimis truncatis oblongis trigonisve apice fornicatis ovarium velantibus, staminibus 4 inæqualibus, filamentis late complanatis, antheris minutis exsertis didymis, ovario conico-ovoideo viridi basi constricto apice attenuato, stigmate sessili capitellato flavo, loculis 2 basilaribus interdum confluentibus 1–2-ovulatis, baccis 2-locularibus dispermis, seminibus exalbuminosis, embryone macropodo.—*J. D. H.*

L. camtschatcense, *Schott in Œsterr. Bot. Wochenbl.* vol. vii. (1857), p. 62; *Miq. Ann. Mus. Lugd.-Bat.* vol. i. p. 285, ii. p. 202. *Engl. in DC. Monogr. Phaner*, vol. ii. p. 210. *Macoun, Cat. Canad. Pl.* vol. ii. p. 73. *Franch. & Savat. Enum. Pl. Jap.* vol. ii. p. 9. *Honzo Zufu*, vol. xxiv. t. 18. *Somoku Zusetsu*, vol. xix. t. 10 (Japonice 13).

L. camtschaticum, *Schott, Gen. Aroid.* t. 91.

L. kamtschatcensis, *S. Wats. Bot. Californ.* vol. ii. pp. 187, 484.

L. japonicum, *Schott ex Miq. Cat. Mus. Bot. Lugd.-Bat.* p. 96. *Franch. & Sav. Enum. Pl. Jap.* vol. ii. p. 9.

Symplocarpus kamtschaticus, *Bong. in Mém. Acad. Pétersb.* sér. 6, vol. ii. (1833), p. 169; *Ledeb. Fl. Ross.* vol. iv. p. 12 (Simplocarpus).

S. camtschaticus, *Kunth, Enum. Pl.* iii. p 84.

Arctiodracon japonicum, *A. Gray in Mem. Amer. Acad.* ser. 2, vol. vi. (1858-9), p. 408.

Pothos camtschaticus, *Spreng. Syst. Veg.* vol iii. p. 767.

Dracontium foliis lanceolatis, *Linn. Amœn. Acad.* vol. ii. p. 362.

Dracontium camtschatcense, *Linn. Sp. Pl.* p. 968.

---

*Lysichitum*, or *Lysichiton*, which is better, and as Schott himself wrote it in a note in the place where he published the description, is a monotypic genus of remarkable distribution. In Asia it inhabits Eastern Siberia, Kamtschatka, Saghalien, and the Kurile Islands, southward to Central Japan; and in America it ranges from the

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Aleutian Islands and Alaska southward to California, to about 40° of latitude. The high latitudinal extension, or rather existence, of this plant, is accounted for, partly, at least, by its being an inhabitant of swamps.

C. A. Geyer, who collected specimens on the Cœur d'Alene River, Idaho, states that it grew in deep, rich, vegetable mould, and that its scarlet fruit was a favourite food of the bear.

*Lysichitum camtschatcense*, Schott, varies very much in size from different localities; the leaves being from a foot to nearly three feet in length, and the spathe, including peduncle, is sometimes as much as eighteen inches long. The fertile part of the spadix is from one inch and a half to nearly six inches long. The late Professor H. N. Moseley, who collected a specimen in Oregon, labelled it "skunk cabbage," a name applied in Canada and the Eastern United States to the closely allied *Symplocarpus fœtidus*, Salisb. The latter is figured in the *Botanical Magazine*, t. 836, under the name of *Pothos fœtidus*, Ait., and also t. 3224.

*Symplocarpus*, as well as *Lysichitum*, is a monotype, and it inhabits Japan as well as Eastern N. America. But, improbable as it seems, there are many more plants common to Eastern Asia and Eastern N. America than there are common to Eastern Asia and Western N. America.

The figure was prepared from a clump growing in a wet, shady corner of the Himalayan section of the Temperate House, Kew, and Mr. Watson notes that it had previously been unsuccessfully tried in the Bog Garden in the open air. In its present position it is flourishing, and perfectly at home.

Kew is indebted to Mr. James R. Anderson, Deputy Minister of Agriculture, British Columbia, for tubers, sent in 1901. The plant of previous cultivation, referred to by Mr. Watson, was apparently of Japanese origin, as there is a leaf in the Herbarium labelled: "*Lysichiton japonicus* from North Japan, garden specimen, Aug. 5, 1886." This leaf is about two feet six inches long, so that the plant was not wanting in vigour. The reason why it did not flower is not easily explained, because M. W. Gorman, who collected the plant in Alaska, notes on the label that the spathes sometimes appear through the snow. Possibly the local conditions were unfavourable. The same collector states that it grows in moist places and on the banks of creeks.—*W. B. H.*

*Descr.*—A stout, glabrous marsh-herb, with a creeping rootstock, giving off erect, sessile tufts of leaves and inflorescences. *Leaves* erect, one to two feet and a half long, subsessile or base narrowed into a very stout, concave petiole, oblong-ovate or -lanceolate, acute or obtuse, thickly coriaceous, costa very broad, nerves spreading and arching. *Peduncle* shorter than the leaves, stout, pale green, nearly white, obscurely transversely wrinkled. *Spathe* four to six inches long, erect, deeply boat-shaped, elliptic in outline, acuminate, membranous, pale yellow, base narrowed into and resembling the peduncle for some length, but fissured in front. *Spadix* stipitate, four to six inches long by one-half to three-quarters of an inch in diameter, top rounded, dense-flowered, green, at first enclosed in the spathe, flowering from the base upwards; stipes inserted far down in the contracted, terete base of the spathe, terete, green, elongating after flowering of the spadix to six inches or more, and freeing itself and the latter from the spathe. *Flowers* all fertile, very densely spicate. *Perianth*-segments four, very unequal, variously compressed, fleshy, truncate, tightly embracing the stamens and ovary. *Stamens* four; filaments very unequal, broad, flat; anthers minute, didymous. *Ovary* conic-ovoid, fleshy, base constricted, cells two, sometimes confluent, one- or two-ovuled; stigma capitellate, yellow. *Berries* partially sunk in the rhachis of the spadix, 2-celled, 2-seeded. *Seeds* concave-convex, exalbuminous; embryo having a large radicle.—*J. D. H.*

---

Fig. 1, three flowers detached from the spadix; 2, two lobes of the perianth, two unequal stamens and pistil; 3, section of 2-celled ovary showing the solitary ovules:—*all enlarged*; 4, much reduced figure of entire plant.

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# TAB. 7938.

# BULPOPHYLLUM AURICOMUM.

*Native of Burma.*

---

Nat. Ord. ORCHIDEÆ.—Tribe DENDROBIEÆ.

Genus BULBOPHYLLUM, *Thou.*; (*Benth. et Hook. f. Gen. Plant.* vol. iii. p. 501.)

---

BULBOPHYLLUM (Eubulbophyllum) *auricomum*; rhizomate repente crassitie pennæ anserinæ squamis brevibus arcte imbricatis brunneis vaginato, pseudobulbis ¾–1¼-pollicaribus confertis anguste ovoideis oblongisve teretibus nudis fusco-viridibus aphyllis, foliis rhizoma terminantibus solitariis binisve 3-4 poll. longis sessilibus lineari-oblongis obtusis coriaceis basi vaginis brevibus viridibus cinctis supra læte viridibus subtus pallidis, scapis basi pseudobulborum insertis racemo incluso 4–10 poll. longis gracillimis, vaginis paucis angustis appressis auctis, racemo elongato decurvo multifloro, rhachi puberulo, bracteis minutis subulatis, floribus subsessilibus cernuis, ovario brevi, sepalis patulis ¾ poll. longis lineari-lanceolatis acuminatis 3-nerviis membranaceis albis dorsali paullo breviore, petalis parvis oblongis obtusis 1-nerviis ciliatis, labello linguæformi recurvo supra papilloso apice rotundato aurantiaco, columna brevi truncata bidentata, anthera mitræformi apice obtusa puberula.—*J. D. H.*

B. auricomum, *Lindl. in Wall. Cat.* n. 1985; *Gen. & Sp. Orchid.* p. 50. *Parish in Mason's Burma*, ed. nov. 1883, vol. ii. *Bot.* p. 154. *Hook. f. Fl. Brit. Ind.* vol. v. p. 765.

B. fœnisecii, *Par. ex Reichb. f. in Bot. Zeit.* vol. xxiii. (1865) p. 99.

Dendrobium tripetaloides, *Roxb. Fl. Ind.* vol. iii. p. 478, *et icon. ined. in Bibl. Kew.*, n. 2359.

---

*Bulbophyllum auricomum* was discovered by the Rev. F. Carey in the forests of Rangoon, whence living plants were sent by him, before 1832, to the Botanical Gardens of Calcutta, where it was cultivated under the name of *Dendrobium tripetaloides*, which was published by Dr. Roxburgh in his "Flora Indica." It has more recently been collected in Tenasserim by William Gomez, one of Wallich's collectors, and by the Rev. C. Parish in Moulmein. The plant figured was obtained by Kew from Mr. J. O'Brien, Harrow-on-the-Hill, in 1894, and Mr. Watson observes that it flowers annually in a stove in June. But this season it is flowering freely at the end of December, and a very pretty and graceful little thing it is, and its agreeable fragrance adds to its attractiveness.

Parish collected numerous specimens, which he presented to Kew in 1872, and in an accompanying note he states

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that it was a great favourite with the Burmese girls to put in their hair, as it is pleasantly fragrant, like new-made hay. He adds that he had found a golden-coloured variety in the mountains. Parish does not take up the name *B. fœnisecii*, credited to him by Reichenbach in the place cited above, and it has not been found in his manuscripts at Kew; but there is no doubt of its identity with *B. auricomum*, Lindl. Reichenbach drew up his description from a plant introduced and cultivated by Messrs. Low & Co.

Since Miss Smith's drawing was lithographed we have found another in the Kew Collection, made by W. H. Fitch in 1871, from a plant cultivated by Messrs. James Veitch & Sons. It is endorsed: "Buller, Stevens's sale, 1849." Fitch's drawing represents a more robust condition of the plant.

*B. suavissimum*, Rolfe (*Gard. Chron.* 1889, vol. i. p. 297) is a closely allied species from Upper Burma, which Mr. Rolfe thinks may be the plant regarded by Parish as a yellow variety of *B. auricomum.*

*Descr.*—A rhizomatous, pseudobulbous herb, less than a foot high. *Rhizomes* creeping, short-jointed, about a quarter of an inch thick, clothed with short, brown, closely imbricated scales. *Pseudobulbs* clustered, three-quarters to one and a quarter inch long, narrow-ovoid or oblong, leafless when the flowers are produced. *Leaves* usually two in the formation of each succeeding pseudobulb, oblong, obtuse, about four inches long, deciduous. *Scapes* solitary from the base of the leafless pseudobulbs, very slender, four to ten inches long, recurved from above the middle, about two-thirds floriferous. *Bracts* minute, persistent. *Flowers* very fragrant, numerous, nearly sessile, nodding, white, with an orange labellum. *Sepals* linear-lanceolate, acuminate, about three-quarters of an inch long, three-nerved. *Petals* small, ovate-oblong, obtuse, 1-nerved, ciliate. *Lip* tongue-shaped, somewhat longer than the petals, hinged at the base and motile, arched, papillose on the upper surface. *Column* short, truncate. *Anther* mitre-shaped, puberulous at the top.—*W. B. H.*

---

Fig. 1, a flower from which the sepals have been removed; 2, the same from which the petals have also been removed; 3, anther-cap; 4, pollen:—*all enlarged.*

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# Tab. 7939.

# CORYDALIS Wilsoni.

*Native of Central China.*

---

Nat. Ord. Fumariaceæ.—Tribe Fumarieæ.

Genus Corydalis, *DC.*; (*Benth. et Hook. f. Gen. Plant.* vol. i. p. 55 )

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Corydalis *Wilsoni*; acaulis, glaberrima, foliis 3–5-pollicaribus patentibus flaccidis pinnatis petiolo breviusculo rhacheque gracilibus, pinnis utrinque 4–6 $\frac{3}{4}$–1-pollicaribus sessilibus petiolulatisve ovato-oblongis pinnatifido-lobatis lobis apice obtusis v. rotundatis enerviis glauco-viridibus, pedunculo brevi robusto, racemo 4–5-pollicari laxe multifloro, bracteis lanceolatis pedicellis $\frac{1}{4}$–$\frac{1}{2}$ poll. longis brevioribus, floribus pollicaribus aureis, sepalis $\frac{1}{4}$ poll. longis ovatis caudato-acuminatis brunneis, petalis exterioribus acuminatis superiore basi in calcar $\frac{1}{3}$ poll. longum incurvum apice rotundatum leviter compressum producto inferioris disco excavato marginibus recurvis, interioribus stipitatis obovato-spathulatis costa crassa exserta, ovario lineari stigmate 2-cruri cruribus incurvis apice 2-lobis, capsula lineari arcuata.—*J. D. H.*

C. Wilsoni, *N.E. Br. in Gard. Chron.* 1903, vol. ii. p. 123.

---

*Corydalis Wilsoni* was raised by Messrs. James Veitch & Sons from seed sent home by their very successful collector, Mr. E. H. Wilson, after whom it is named. They at first cultivated it in a greenhouse, where it flowered in March of last year, and one of the plants so raised is represented in our plate. The plant in question was presented to Kew, and in May it was turned out in the Rock Garden, where it has flourished and flowered throughout the summer and autumn, and in the middle of December, as Mr. Watson pointed out to us, it was still flowering under the shelter of an overhanging rock. The dimensions of the plant were considerably beyond its condition when Miss Smith made the drawing. Although the plant was past flowering, the leaves were still green at the end of the first week in January.

In reply to inquiries, Messrs. Veitch state that the habitat of *Corydalis Wilsoni* is given in Wilson's notes as: "dry rocks at 10,000 ft., Fang"; which is in the Province of Hupeh. Its hardiness, in so far as temperature is concerned, is therefore unquestionable. Whether it will bear our often mild, humid winters, time will prove.

February 1st, 1904.

There are many other new species from the same region deserving of a trial in our gardens.—*W. B. H.*

*Descr.*—Stemless, perfectly glabrous. *Leaves* all radical, three to five inches long, spreading, flaccid, ovate-oblong in outline, glaucous green, pinnate; petiole short, and rhachis slender; pinnæ four to six on each side, three-fourths to one inch long, rather distant, sessile, on the lower part sometimes free and petiolulate, ovate-oblong, pinnatifidly lobed, lobes rounded, lobulate, lobules obtuse or rounded at the tip. *Peduncles* short, robust, with the raceme four to five inches long, bright green. *Raceme* loosely many-flowered; bracts lanceolate, shorter than the pedicels, which are one-quarter to half an inch long. *Flowers* about an inch long. *Sepals* ovate, caudately acuminate, pale brown. *Petals* golden-yellow. Outer petals linear-oblong, acuminate, tips recurved, upper produced at the base into a very broad, incurved, slightly flattened spur rounded at the apex; lower with a deep groove on the disk bounded by a crenulate ridge, margins recurved. *Petals* narrow, stipitate, spathulately obovate, costa very thick, protruded beyond the rounded apex. *Ovary* very slender; stigma horse-shoe-shaped, with the tips of the incurved arms 2-lobed. *Capsule* very slender, arcuate.—*J. D. H.*

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Fig. 1, flower; 2, sepal; 3, anthers; 4, ovary:—*all enlarged*; 5, capsule of the *natural size.*

7940

M.S. del, J.N.Fitch lith.

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# TAB. 7940.

# SAUROMATUM BREVIPES.

*Native of the Sikkim Himalaya.*

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Nat. Ord. AROIDEÆ.—Tribe ARINEÆ.

Genus SAUROMATUM, *Schott*; (*Benth. et Hook. f. Gen. Plant.* vol. iii. p. 966.)

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SAUROMATUM *brevipes*; acaule, tubere parvo oblato tuberculis perplurimis coronato, foliis 1–3 longe petiolatis pedatim 5–9-partitis segmentis 4–6 poll. longis anguste lanceolatis caudato-acuminatis supra læte viridibus subtus pallidis costa utrinque rubra, petiolo 4–15 poll. longo erecto tereti roseo, spathis confertis breviter pedunculatis, pedunculo curvo hypogæo, spathæ tubo 1½ poll. longo ampullæformi basi inflato fere pollicem diametro dein in collum breve cylindraceum apice fissum in laminam desinense constricto extus pallide flavo-virescente maculis pallide roseis ornato fauce basique limbi intus rubro-purpurea, limbo 4–5 poll. longo basi ad ½ poll. lato arcuato anguste lineari-lanceolato acuminato convoluto torto extus pallide sordide roseo v. griseo, spadice sessili spathæ æquilonga gracili parte florifera 1–1½ pollicari in ventre spathæ inclusa in appendicem gracilem exsertam ascendentem cylindraceam apice obtusam infra medium roseam dein aurantiacam desinense, ovariis minimis in columnam oblongam viridem ad ¼ poll. longam densissime confertis ovoideis 1-locularibus 2-ovulatis stigmate minuto sessili, ovulis 2 basilaribus erectis, organis neutris paucis clavatis, antheris minutis 2-locularibus in columnam cylindraceam confertis infimis minimis deformatis papillæformibus, loculis globosis.

S. brevipes, *N.E. Br. in Gard. Chron.* 1903, vol. ii. p. 93.

Typhonium pedatum, *Schott in Œsterr. Bot. Wochenbl.* 1857, p. 262, *partim.*

T. brevipes, *Hook. f. Fl. Brit. Ind.* vol. vi. p. 511.

---

The genus *Sauromatum* consists of about five species of E. Indian and tropical African plants closely allied to *Arum*. Of these one has been previously figured in this work, *S. guttatum*, Schott, tab. 4465, a N.W. Indian species, conspicuous for its large spathe spotted with dark purple. *S. brevipes* was first found by myself near Darjeeling, in the Sikkim Himalaya, in 1848, but in fruit only. It has since been collected in flower by Mr. C. B. Clarke, F.R.S., and Mr. G. A. Gammie, now Professor of Botany at Poona, in the same neighbourhood, at elevations of 7,000 to 7,500 feet. Owing to the difficulty of ascertaining the true nature of the spathe in dried specimens it was referred to the genus *Typhonium* (see tabs. 339, 2324, *Arum*, and 6180), with which it agrees in all other points, except

that the tube of the spathe is entire, not convolute, which latter character brings it to *Sauromatum*. On the other hand, the leafing of *S. brevipes* being coetaneous with the flowering, is opposed to the character of *Sauromatum*, and suggests the expediency of the two genera being united.

For this interesting plant I am indebted to the rich collection of the University Botanic Gardens of Cambridge, where it flowered in June, 1902. A tuber of it was received from the Sikkim Himalaya, along with others of *Remusatia vivipara*, *Thomsonia nepalensis*, and *Arisæma speciosum*.

Mr. Lynch writes that he has a number of healthy small plants growing from daughter-tubers produced by the mother-tuber, which perished after flowering. He adds: "The formation of a number of small tubers upon the crown of the old one appears to be characteristic of the species, for even the tubers of the young plants, only three-eighths of an inch across, have already a conspicuous ring of tiny buds."

*Descr.*—*Tuber* small, oblately spherical, giving off coetaneously sub-sessile spathes, and a few long-petioled, pedatipartite leaves, and from the crown innumerable tubercles by which the species is propagated, as well as by seed. *Petiole* four to fifteen inches long, erect, cylindric, rose-coloured, unspotted; segments of limb five to nine, four to six inches long, narrowly linear-lanceolate, caudate-acuminate, bright green above, with a dark red costa. *Spathes* very shortly peduncled; peduncles hypogæous; tube an inch and a half long, ampullæform, quite entire, pale yellowish green, faintly spotted with rose, globose below, an inch in diameter, then narrowed into a short, cylindric tube split at the throat and passing into the long, narrow, convolute, twisted, acuminate, arching limb, four to six inches long, of a pale greyish or rosy colour, bright red at the base and inside the throat. *Spadix* as long as the spathe, slender; flowering part about an inch and a half long, enclosed in the inflated portion of the spathe, terminated by a very slender, terete, smooth, ascending appendix, which is rose-coloured towards the base, and orange-yellow above it to the obtuse tip. *Ovaries* crowded in an oblong mass at the base of the spadix, minutely ovoid, green. *Anthers* in a cylindric mass at the top of the flowering portion, very minute, 2-celled, the lower reduced to papillæ on the neuter space between the anthers and ovaries, which bears a few stipitate, clavate, neuter organs.—*J. D. H.*

Fig. 1, base of tube of spathe laid open, inflorescence and peduncle; 2, male part of the inflorescence; 3, anther; 4, ovary; 5, the same bisected, showing the ovules:—*all enlarged.*

7941

M.S. del. J.N.Fitch lith.

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# TAB. 7941.

## MELALEUCA UNCINATA.

*Native of Temperate Australia.*

---

Nat. Ord. MYRTACEÆ.—Tribe LEPTOSPERMEÆ.

Genus MELALEUCA, *Linn.*; (*Benth. et Hook. f. Gen. Plant.* vol. ii. p. 705.)

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MELALEUCA (Capitatæ) *uncinata*; frutex erectus ramis gracilibus, ramulis junioribus sericeo-pubescentibus, foliis sparsis 1–4-poll. longis sessilibus fere filiformibus teretiusculis pallide viridibus apicibus subulatis recurvis rarius obtusis brunneis, floribus minutis in capitula parva axillaria sessilia globosa densissime congestis, bracteis ovato-lanceolatis acuminatis ¼ poll. longis caducis, bracteolis late oblongis, calycis hemispherici tubo vix 1/12 poll. longo sinuato-5-dentato, petalis orbicularibus parvis staminibus crescentibus disjunctis et provectis, staminum phalangis ad ¼ poll. longis, filamentis 5–7, ovario hirsuto superiore, stylo gracili flexuoso basi incrassato, capitulis fructiferis ad ½ poll. diam. globosis, capsulis compactis angulatis truncatis.

M. uncinata, *R. Br. in Ait. Hort. Kew.* ed. 2, vol. iv. p. 414. *DC. Prodr.* vol. iii. p. 213. *Schau. in Lehm. Pl. Preiss.* vol. i. p. 138. *Benth. Fl. Austral.* vol. iii. p. 150. *Bail. Queensland Fl.* p. 602.

M. hamata, *Field. & Gard. Sert. Pl.* t. 74.

M. Drummondii, *Schau. l. c.* 138.

M. semiteres, *Schau. l. c.* p. 143.

---

Of the large Australian genus *Melaleuca*, numbering ninety-seven species in Bentham's "Flora Australiensis" (since increased to upwards of a hundred), *M. uncinata* is one of the only three which inhabit both Eastern and Western Australia. It has indeed a wider distribution within Australia than any of its congeners, namely, New South Wales, Victoria, South Australia, and Western Australia, advancing northward in the latter colony to the Murchison River, and in New South Wales to the Lachlan River, but apparently does not cross the Blue Mountains to the eastward. It has also been collected in Queensland by Mueller, according to Bailey's "Queensland Flora," and in King's Island, Bass Strait, but not in Tasmania. It seems natural to attribute this most remarkably wide dispersion for an Australian shrub to the hooked tips of the leaves. The genus is all but confined to Australia, and nearly two-thirds of the species are restricted to Western Australia. One of the few tropical species, *M. Leucadendron*, Linn., is found in the Malayan Archipelago, and as far North-west as Southern Burma. It is also cultivated in India, and yields the Cajuput oil of commerce.

The plant figured was raised from seed taken from herbarium specimens in 1896, collected by the Elder Exploration Expedition (1891-2) from South Australia through the Victoria Desert into Western Australia. It flowered in the Temperate House in April, 1902. There are many ornamental species of *Melaleuca*, though few are so brilliant as those of the allied genera *Callistemon* and *Calothamnus*. Only five have previously been figured in the Magazine, the last being *M. Wilsoni* (t. 6131). The history of the cultivation of the genus at Kew is singular. In 1789 there was only one species in the garden (Aiton, *Hortus Kewensis*). By 1812 (*Hortus Kewensis*, ed. 2) the number had increased to twenty-four. In 1850, as Mr. Watson informs me, there were only five species, and now there are thirty.

*M. uncinata* was first raised at Kew in 1803, from seed sent home by Peter Good, who accompanied Robert Brown on Flinders's voyage, and died at Sydney, N.S. Wales, in 1803. It is noteworthy in the genus for having a free or superior ovary.

*Descr.*—A dwarf, erect shrub, with slender branches, silky-pubescent when young. *Leaves* scattered, one to four inches long, sessile, terete, very slender, pale green, tips hard, sharp, recurved. *Flowers* minute, pale yellow, clustered in small, axillary, sessile, dense, globose heads. *Bracts* ovate-lanceolate, acuminate, a quarter of an inch long, caducous. *Bracteoles* broadly oblong, villous. *Calyx* hemisphærical; tube minute; limb of five very short, rounded lobes. *Petals* very small, nearly orbicular, ciliolate, carried up and thrown off by the unfolding stamens. *Stamens* in five bundles of five to seven each; filaments free to below the middle. *Ovary* hairy, free; style slender, glabrous. *Capsules* densely clustered, long, persistent.—*J. D. H.*

---

Fig. 1, tip of leaf; 2, bracteole; 3, expanding flower, the petals on the top of the unfolding stamens; 4, portion of flower laid open; 5, petal; 6, pistil; 7, portion of branch and head of fruit; 8, tube of calyx:—all but fig. 7 *enlarged.*

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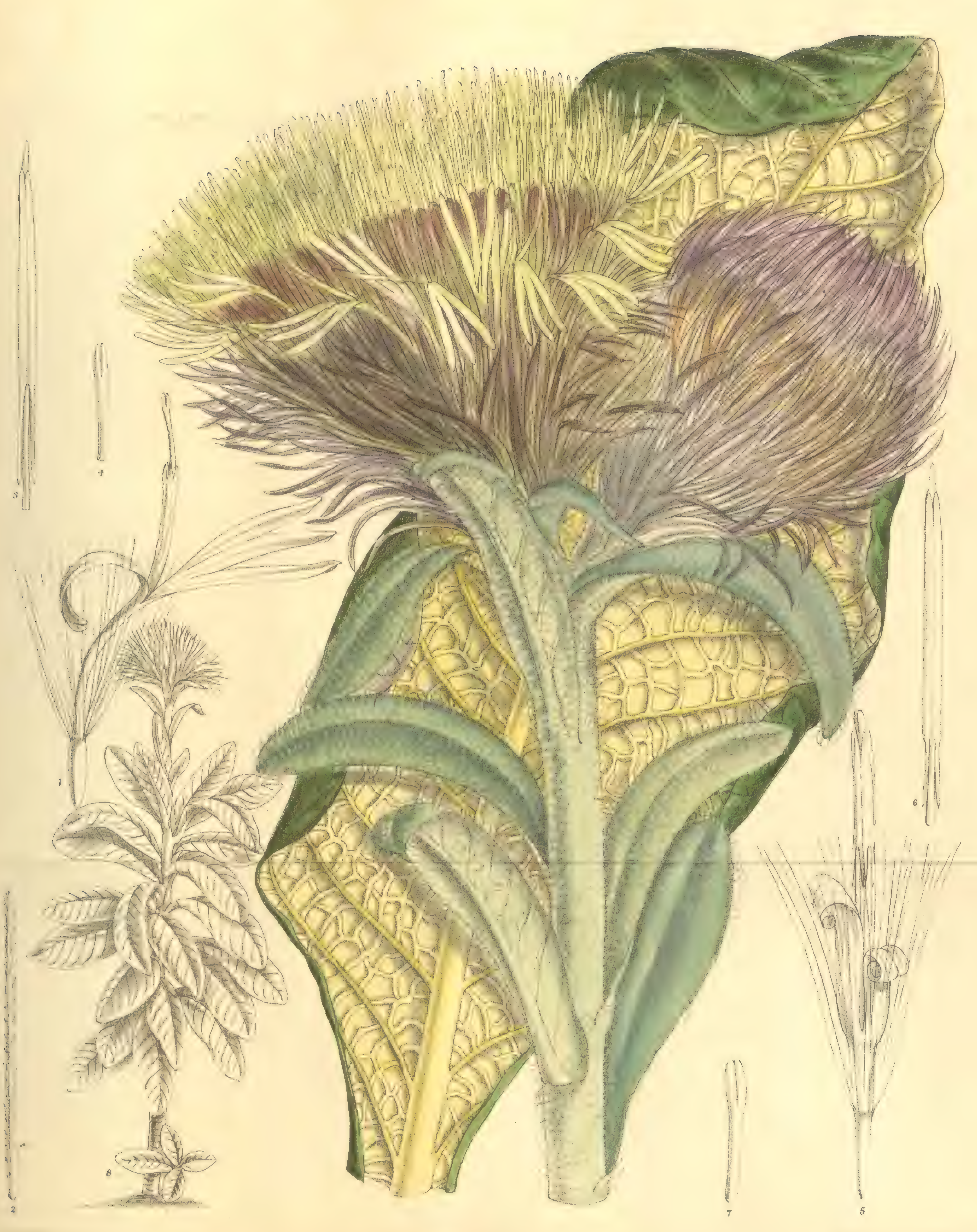

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# TAB. 7942.

# OLDENBURGIA ARBUSCULA.

*Native of South Africa.*

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Nat. Ord. COMPOSITÆ.—Tribe MUTISIACEÆ.

Genus OLDENBURGIA, *Less.*; (*Benth. et Hook. f. Gen. Plant.* vol. ii. p. 494.)

---

OLDENBURGIA *Arbuscula*; frutex robustissimus, arboriformis, usque ad 6 ped. altus, caule simplici usque ad 6 poll. crasso, foliis confertis subsessilibus patentibus crasse coriaceis rigidissimis obovatis vel oblongis 9–18 poll. longis 4–9 poll. latis integris basi cuneatis apice rotundatis junioribus densissime albo-lanatis supra cito glabrescentibus nitidisque venis primariis numerosis costiformibus, ramo florifero (interdum 2) subterminali crasso rigidissimo densissime lanato 1–5- sæpius 3-cephalo erecto folia superante foliis compluribus parvis oblongis, breviter petiolatis acutis munito post fructescentiam deciduo, pedunculis brevibus etiam foliiferis, capitulis amplis albo-purpureis, involucri bracteis numerosissimis multiseriatis linearibus acutissimis rigidis basi dense albo-lanatis cetera glabris purpureis, florum alborum exteriorum corollis distincte bilabiatis labio exteriore 3-lobato labio interiore emarginato, interiorum corollis bipartitis segmentis revolutis, achæniis gracilibus circiter semipollicaribus striatis glabris, pappi setis numerosis uniseriatis quam staminibus exsertis brevioribus brevissime plumosis.

O. Arbuscula, *DC. Prodr.* vol. vii. pp. 12 *et* 306; *Mém. Comp.* t. 12. *Harv. et Sond. Fl. Cap.* vol. iii. p. 512, *excl. synon. North Gallery, Kew*, pict. 403 *et* 408. *W. Wats. in Gard. Chron.* vol. ii. 1903, p. 178, *et* vol. i. 1904, p. 9, f. 4.

O. grandis, *Baill. Hist. Pl.* vol. viii. p. 97, *in nota, excl. synon.*

---

*Oldenburgia* is a genus of three known species, all native of South Africa, and comparatively local, inhabiting the mountains from Swellendam to Albany. It was named in memory of S. Oldenburg, a Dutchman, who accompanied F. Masson on his first journey collecting for Kew in 1772-3. *O. paradoxa*, Less., on which the genus was founded in 1830 (*Linnæa*, vol. v. p. 252), is an almost stemless shrub, with a thick, woody rootstock. It has smaller flower-heads than *O. Arbuscula*, and they are at first nestled close to the clustered leaves, but as the heads mature the peduncle elongates a foot or more, according to a note accompanying a specimen collected by Prof. MacOwan. Elongation of a fruit-bearing branch or stalk is not an uncommon occurrence, but such a very great prolongation is rare. One of the most remarkable instances of this phenomenon is exhibited by a slender,

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saprophytic orchid (*Didymoplexis pallens*), which in the flowering-stage is only about six inches high, but as the capsules ripen the pedicels elongate until they are often as long or longer than the whole plant was when in flower. In this case it would probably facilitate the dispersal of the seed.*

The third species of *Oldenburgia*, *O. Papionum*, DC., is figured in Hooker's "Icones Plantarum," t. 1723.

The plant figured here was raised from seed collected and brought home from South Africa, in 1887, by Mr. W. Watson, the Curator of the Royal Botanic Gardens, Kew, when he returned happily restored to health, which was the main object of his visit. As may be imagined, it has ever since been one of his pets, and it was a great satisfaction when the first flowers appeared in September last.

*O. Arbuscula* inhabits the mountains of Uitenhage and Albany, and it is a specially striking feature in the vegetation of the mountain sides and tops near Grahamstown, where it ascends to an altitude of 2,000 feet.

Harvey and Sonder, in their work cited above, describe *O. Arbuscula* as a shrub or small tree, twelve to fifteen feet high, with a trunk one foot and a half in circumference, but all the collectors' notes that we have seen give no dimensions to equal these. Burchell, who was a most careful observer, describes it as "arbor nana, 2–4-pedalis, truncus 2–6 pollices crassus;" therefore it should probably have been two to five feet, though Mr. Watson has the impression that it sometimes attains a height of six feet.

The Kew plant is still unbranched, and it has taken sixteen years to reach a height of about three feet. We have found no previous record of the species having flowered in Europe. But it was in cultivation at Kew as long ago as 1873—how much longer is uncertain, because we have not been able to trace the history of any previous introduction.

It is not probable that *Oldenburgia Arbuscula* will ever become familiar in our gardens; but it is a remarkable plant, even in the Tribe Mutisiaceæ, which includes many singular and beautiful forms. Kreupel-boom, meaning dwarf tree, is the Dutch name. The finest dried specimen we have seen is in the British Museum, and was collected by Francis Masson.

---

* See Journal of the Linnæan Society, "Botany," vol. xx. (1883), p. 308, t. 28.

*Descr.*—A very robust, tree-like shrub, three to six feet high. *Stem* simple, four to six inches thick. *Leaves* crowded, nearly sessile, spreading, very thick, coriaceous and stiff, obovate or oblong, six to eighteen inches long, and three to eight inches broad, entire, cuneate at the base, rounded at the top, younger ones covered with a dense white wool, upper surface soon becoming smooth and shining; primary veins numerous, prominent, and rib-like. *Flowering-branch* (sometimes there are two) or common peduncle, sub-terminal, thick, rigid, densely woolly, erect, bearing one to five, but usually three heads of flowers, and, as well as the peduncles proper, a number of small, oblong, shortly-stalked, acute leaves, deciduous after fruiting. *Flower-heads* large purple and white. *Involucral bracts* very numerous, in many series, linear and tapering into very fine points, hard, tough, clothed with a dense white wool at the base, thence glabrous and purple. *Flowers* white; corolla of the outer ones distinctly two-lipped, with the outer lip three-lobed, inner lip notched; corolla of the inner flowers bipartite, segments rolled up outwardly. *Achenes* very slender, cylindric, about half an inch long, striate, glabrous; pappus-bristles numerous, uniseriate, shorter than the exserted stamens, very shortly plumose.—*W. B. H.*

---

Fig. 1, an outer flower; 2, a bristle of the pappus; 3, an anther; 4, upper part of style and stigma from the same; 5, an inner flower; 6, anther; 7, upper part of style and stigma, from the same:—*all enlarged*; 8, plant about ¼ of *natural size.*

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# TAB. 7943.

## TANAKÆA RADICANS.

*Native of Japan.*

---

Nat. Ord. SAXIFRAGACEÆ.—Tribe SAXIFRAGEÆ.

Genus TANAKÆA, *Franch. et Savat. Enum. Pl. Jap.* vol. ii. p. 352.

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TANAKÆA *radicans*; herba dioica, vel fortasse interdum monoica, exigua, modesta, scaposa, stolonifera, stolonibus gracilibus foliiferis radicantibus, foliis longe petiolatis crassis subcarnosis demum coriaceis cum petiolo 4–8 poll. longis oblongo-lanceolatis vel ovato-lanceolatis basi rotundatis vel subcordatis apice acutis, utrinque parce setulosis demum glabrescentibus subduplicato-serratis, scapis gracillimis pyramidatim ramosis 6–7 poll. altis parce minuteque setulosis, bracteis primariis linearibus acutis 1½–3 lin. longis, floribus minimis breviter pedicellatis, bracteis calycem æquantibus, sepalis 5 oblongo-lanceolatis circiter ¼ lin. longis fere liberis, petalis nullis, fl. ♂ staminibus 10 alternis brevioribus filamentis filiformibus sepala dimidio excedentibus, antheris unilocularibus, gynæcei rudimento minuto, fl. ♀ staminibus rudimentariis nullis, ovario glabro fere omnino libero 2-loculare, stylis 2 divergentibus, ovulis numerosis, capsula ignota.

T. radicans, *Franch. et Savat. Enum. Pl. Jap.* vol. i. (1875) p. 144 (*ubi nomen tantum et sphalmate* Tanakea), *et op. cit.* vol. ii. p. 352 (*ubi descriptio et nomen emendatum*). *Honzo Zufu*, vol. xxxvi. t. 23. *Somoku Zusetsu*, vol. viii. t. 17 (18 (*japonice*). *Kew Hand-list Herb. Pl.* ed. 2, 1902, p. 1127. *Engler & Prantl Natürl. Pflanzenf.* vol. iii. 2, A. pp. 48 *et* 49. *Hemsl. in The Garden*, vol. lxiii. (1903) p. 334. *Gard. Chron.* 1903, vol. i. p. 269 (*errore* Janckea) *et* p. 288.

---

*Tanakæa* is a monotypic genus confined to Japan in a wild state, so far as our present knowledge goes; but exact localities are not given in the works cited. It was named after Yoshio Tanaka, a Japanese botanist and a member of the House of Peers.

Our figure was prepared from a plant exhibited by R. H. Beamish, Esq., Ashbourne, Glounthaune, Cork, Ireland, at a meeting of the Royal Horticultural Society, where it was awarded a Botanical Certificate. When I wrote the article in "The Garden," referred to above. I was under the impression that it was not at Kew in a living state; but, as Mr. W. Irving, the Foreman of the Herbaceous Department, has informed me, a plant was presented to Kew by Mr. W. H. Stansfield, Nurseryman

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of Southport, Lancashire, in 1899. It is still alive, and apparently healthy, although it is not very big; and it produced a very small inflorescence in 1900. Since then it has not flowered.

*Tanakæa radicans* is not one of those plants with a probable future in gardens, but it is highly interesting from a botanical standpoint. The individual plants bear only unisexual flowers, and the one depicted bore only female flowers; the inflorescence having the appearance of a miniature *Astilbe japonica*. The figure in the "Honzo Zufu" represents a male plant, having runners like those of the strawberry plant. The figure in the "Zomoku Zusetsu" is of a female plant with an enlarged male flower by its side, which is reproduced in our plate.

Franchet and Savatier, in the place cited above, give no locality for *Tanakæa*, and the only specimen in the Kew Herbarium is from the Science College, Imperial University of Japan. It is labelled "Mt. Amagi, Prov. Idn." I have not been able to fix this locality, and the transliteration may not be correct.

The genus *Tanakæa* is most nearly related to *Leptarrhena pyrolifolia*, R. Br., a native of North America and Kamtschatka, which it strongly resembles in foliage, but it differs essentially in floral structure.

*Descr.*—A lowly, diœcious, or perhaps sometimes monœcious, scapose herb, producing runners similar to those of the strawberry-plant. *Runners* very slender. *Leaves* petiolate, thick, almost fleshy, at length coriaceous, including the petiole four to eight inches long; blade oblong-lanceolate or ovate-lanceolate, rounded or somewhat cordate at the base, acute, sparingly setulose on both surfaces, doubly serrulate. *Scapes* exceedingly slender, branched, pyramidal, six or seven inches high. *Bracts* at the base of the branches linear, acute, one and a half to three lines long. *Flowers* exceedingly small, greenish white, shortly stalked, solitary in the axils of bracts of about the same length as the calyx. *Sepals* five, almost free, oblong-lanceolate, about a quarter of a line long. *Petals* none. *Male flowers*: stamens ten, alternate ones shorter; filaments filiform, twice as long as the sepals; "anthers one-celled;" rudimentary ovary minute.

*Female flowers* : rudimentary stamens none ; ovary glabrous, almost entirely free, two-celled ; styles two, divergent ; ovules numerous. *Seed-vessel* unknown.—*W. B. H.*

---

Fig. 1, a male flower, copied from the " Zomoku Zusetsu ; " 2, rudimentary gynæceum, from the same source ; 3, branch of a female inflorescence ; 4, a female with some of the sepals removed ; 5, vertical section of the ovary :—*all enlarged.*

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# TAB. 7944.

# KIRENGESHOMA PALMATA.

*Native of Japan.*

---

Nat. Ord. SAXIFRAGACEÆ.—Tribe HYDRANGEÆ.

Genus KIRENGESHOMA, *Yatabe, Bot. Mag. Tokyo Bot. Soc.* vol. v. p. 1.

---

KIRENGESHOMA *palmata*; herba perennis, compacta, in horto kewensi culta circiter 2-pedalis, in sylvis indigenis 3–4-pedalis, caulibus graciliusculis glabris purpureis, foliis papyraceis præter superiora petiolatis cordato-rotundatis palmatilobatis utrinque pilis brevibus rigidis appressis instructis caulinis sæpius oppositis inferioribus 7–10-lobatis interdum 6–7 poll. diametro petiolis 9–10 poll. longis sursum gradatim minoribus supremis sessilibus lanceolatis omnium lobis acutis grosse dentatis, pedunculis axillaribus terminalibusque sæpissime trifloris folia superantibus, bracteis linearibus acutis 2–4 lin. longis, pedicellis calycibusque puberulis, floribus luteis campanuliformibus 1½–1¾ poll. diametro subnutantibus, calyce hemisphærico circiter 5–6 lin. diametro 5-dentato dentibus subacutis, petalis 5 liberis crassiusculis fragilibus oblongo-lanceolatis supra medium recurvis sinistrorsum contorto-imbricatis, staminibus 15 triseriatis petalis basi adnatis seriei exterioris longioribus quam petalis brevioribus, seriei interioris brevioribus, filamentis filiformibus, antheris bilocularibus fissuris longitudinalibus dehiscentibus, ovario semisupero glabro triloculari (vel interdum quadriloculari, *Yatabe*), loculis multiovulatis stylis glabris fere a basi liberis inclusis, capsula loculicide dehiscente stylis persistentibus divaricatis coronata, seminibus numerosis planis oblique alatis, embryone recto in albuminis carnosi axe, cotyledonibus ovatis radiculam teretem æquantibus.

K. palmata, *Yatabe in Bot. Mag. Tokyo Bot. Soc.* vol. v. (1890), no. 46, p. 1, t. 18; *Iconogr. Fl. Jap.* vol. i. (1891), p. 5, t. 2 (*icon et descriptio Tok. Bot. Mag. ibi iterata*). *W. Wats. in Gard. Chron.* vol. ii. 1903, p. 187. *W. Irv. in The Garden*, vol. ii. 1903, p. 245, *cum figura plantæ kewensis in situ. Engl. in Engler & Prantl Natürl. Pflanzenf. Nachtr.* p. 180.

---

*Kirengeshoma* is, we believe, the first genus founded by a Japanese Botanist that has been figured in this Magazine; and it may be news to some of our readers that botanical work has been conducted in Japan for some years past on the same lines as in western countries. Most branches, too, have attained an equally high position. Both descriptive and illustrative work is excellently done, and descriptions of new plants are published in Latin or in one of the leading European languages, as well as in Japanese.

This genus was first published in the "Botanical Magazine of Tokyo." The name is compounded of the

Japanese words: *ki*, yellow, and *rengeshoma*, the name of *Anemonopsis macrophylla*, Sieb. & Zucc.; but it is desirable that this example should not be followed. Similar compounds in European languages are generally regarded as inadmissible; but Dr. Yatabe had a precedent, though not a parallel, in *Aucuba*, a Japanese name adopted by a European botanist.

Dr. R. Yatabe discovered this plant in flower, in 1888, in open woods, at an elevation of over 5,000 feet, on Mount Ishizuchi, in the province of Iyo, and in 1890 Mr. E. Yoshinaga sent him seeds from the same locality. As we learn from Mr. Watson's note in the "Gardeners' Chronicle," Dr. Yatabe sent seeds to Kew in 1891, from which, however, only one plant was raised. "This," he adds, "has been grown for ten years or so in a rather moist, sunny situation in the rock-garden, and it has now and then made an attempt to flower, but from some cause or other it has never revealed its true character until this year. Probably the excessive wet and other peculiarities of weather may have suited. At any rate it has made strong stems two feet high." It flowered freely in September and October, though some of the flowers fell before attaining full expansion, and it is certainly a very distinct and attractive plant. But it evidently has not yet found the most favourable conditions at Kew, as it grows three to four feet high in its native woods. The reduced figure in "The Garden" gives a good idea of its habit.

It is a noteworthy event the figuring of two monotypic genera of the same natural order, from the same country, in the same number of the Magazine. And it emphasizes the richness of the Japanese flora as compared with the British flora.

*Descr.*—A compact, perennial herb, about two feet high, as grown at Kew. *Stems* slender, glabrous, purple. *Leaves* papery, except the uppermost stalked, rotundate-cordate, palmately lobed, beset with rigid, appressed hairs on both surfaces, cauline mostly opposite, lower ones seven- to ten-lobed, sometimes six to seven inches in diameter, with petioles nine to ten inches long, smaller upwards, uppermost sessile, lanceolate; lobes of all acute, coarsely toothed. *Peduncles* axillary and terminal, usually three-flowered, overtopping the leaves. *Bracts* linear, acute, two to four lines long. *Pedicels* and calyx puberulous. *Flowers* yellow, campanulate, one and a half to one and three quarters of an inch in diameter, more or less nodding. *Calyx* hemispherical, about five or six lines in diameter, five-toothed. *Petals* five, free, thick, brittle, oblong-lanceolate, recurved above the middle, contorted in æstivation, overlapping to the left. *Stamens* fifteen, in three series; outer series longest, shorter than the petals; inner series shortest; filaments filiform; anthers two-celled, dehiscing longitudinally. *Ovary* half-superior, three-celled (or sometimes four-celled, Yatabe), glabrous; cells many-ovuled; styles glabrous, filiform, free to the base, included. *Capsule* dehiscing loculicidally, crowned by the persistent, spreading styles. *Seeds* numerous, flat, obliquely winged; embryo straight in the axis of the fleshy albumen; cotyledons ovate, about as long as the terete radicle.—*W. B. H.*

Fig. 1, gynæceum and part of calyx; 2, a petal and adherent stamens; 3 and 4, anthers; 5, cross-section of ovary; 6, vertical section of the same:—*all enlarged.*

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# TAB. 7945.

# SOLANUM GLAUCOPHYLLUM.

*Native of South Brazil and Uruguay.*

---

Nat. Ord. SOLANACEÆ.—Tribe SOLANEÆ.

Genus SOLANUM, *Linn.*; (*Benth. et Hook. f. Gen. Plant.* vol. ii. p. 888.)

---

SOLANUM *glaucophyllum*; frutex erectus, pluricaulis, usque ad 6 ped. altus, fere omnino glaber, caulibus rectis subsimplicibus glaucis, ramulis fructiferis demum rubescentibus, internodiis quam foliis multoties brevioribus, foliis deciduis petiolatis crassiusculis glaucis lineari-lanceolatis sæpius cum petiolo 4–8 poll. longis utrinque attenuatis acutis venis immersis inconspicuis, floribus roseo-purpureis circiter 1 poll. diametro in cymas laterales laxas 5–6 poll. latas dispositis, bracteis minutis cito deciduis, pedicellis graciliusculis curvatis, calycis parvi lobis rotundatis apiculatis ciliolatis, corollæ subcampanulatæ lobis ovatis apiculatis incurvis extus leviter puberulis, antheris aurantiacis pulverulentis, ovario glabro, stylo stamina æquante, fructu oblongo-ovoideo 9–10 lin. longo purpureo-violaceo.

S. glaucophyllum, *Desf. Cat. Hort. Par.* ed. 3 (1829), p. 396.

S. glaucum, *Dun. in DC. Prodr.* vol. xiii. (1852), pars 1, p. 100. *Bertol. Misc Bot.* vol. xii. p. 46. *Belg. Hortic.* vol. iii. (1853), p. 165, *cum fig. color. Bettfreund, Fl. Argent.* vol. iii. t. 152.

S. glaucophyllum *et* S. glaucum, *hortulanorum, fide Dun. in DC. Prod. loc. cit.*

---

*Solanum glaucophyllum* was cultivated in Paris three-quarters of a century ago, and it was described, though not very fully, by Desfontaines, in the publication referred to above. Dunal, when preparing his monograph for the "Prodromus," seems to have been unaware that a description of the plant had appeared, and chose the shorter of two names then current in gardens.

A year later Prof. Ch. Morren figured and described it in the "Belgique Horticole," where he attributes its introduction, in 1833, to the botanist Gaudichaud; but most probably it was originally introduced by Auguste de Saint-Hilaire, who travelled in South America between 1816 and 1821, and was apparently the first to discover this species. The only wild specimen in the Kew Herbarium is of his collecting, and from Uruguay. It is also recorded from South Brazil and the Argentine Republic.

It is singular that such a very attractive *Solanum* should have scarcely become known outside of botanic gardens

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during the long period it has been cultivated. Morren describes it as one of the most beautiful and most elegant species of this large genus, "which may be cultivated in the open air." He probably meant during the warmer months, though he adds that it is an ornament in our gardens throughout the whole year. It certainly looks like a plant that would repay careful cultivation. Another species, which has proved an excellent roof-climber for the conservatory or greenhouse, is *S. Wendlandi*, Hook. f. (B. M. t. 6,914) and deserves mention here.

The history of the plant figured is unknown, but the species has been in cultivation at Kew for many years, and it flowers and fruits annually in the Temperate House.

*Descr.*—An erect, almost wholly glabrous shrub. *Stems* numerous, straight, usually almost unbranched, glaucous; fruiting branches tinged with red. *Internodes* many times shorter than the leaves. *Leaves* deciduous, petiolate, rather thick, glaucous, linear-lanceolate, usually four to eight inches long, tapering to both ends; venation immersed and inconspicuous. *Flowers* rose-purple, with orange-yellow anthers, about an inch in diameter, arranged in loose, lateral cymes, five to six inches across. *Bracts* very small, and early deciduous. *Pedicels* rather slender, curved. *Calyx* small; lobes rounded, apiculate, ciliolate. *Corolla* broadly campanulate; lobes ovate, apiculate, incurved, very slightly hairy on the outside. *Anthers* pulverulent. *Ovary* glabrous; style not exceeding the stamens. *Fruit* oblong-ovoid, about three-quarters of an inch long, purple-violet. *Seeds* flattened, kidney-shaped, about a quarter of an inch long, finely reticulated.—*W. B. H.*

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Fig. 1, calyx and gynæceum; 2 and 3, anthers; 4, ovary and disk; 5, fruiting-branch; 6 and 7, seed:—*all except 5 and 6 enlarged.*

M.S.del, J.N.Fitch lith.

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# TAB. 7946.

## MEGACLINIUM PLATYRHACHIS.

*Native of British Central Africa.*

Nat. Ord. ORCHIDACEÆ.—Tribe EPIDENDREÆ.

Genus MEGACLINIUM, *Lindl.*; (*Benth. et Hook. f. Gen. Plant.* vol. iii. p. 505.)

MEGACLINIUM *platyrhachis*; inter species hucusque cognitis rhachis amplitudine insignis; rhizomate crasso lignoso, pseudobulbis sparsis oblongo-ovoideis acute 5-vel 6-angulatis 2–3 poll. longis bifoliatis, basi squamis paucis dimidio brevioribus instructis, foliis crassis oblongis obtusis 5–6 poll. longis eveniis, scapis basilaribus solitariis, pedunculo tereti circiter semi-pedali erecto bracteis vel squamis paucis ocreiformibus oblique truncatis ornato, rhachi luteo-viridi albo-brunneo-punctulata valde complanata loriformi (medio incrassata utrinque alata) undulata crenulata utrinque secus medium florifera per anthesin gradatim evoluta perfecta circiter 1 ped. longa et medio 1½ poll. lata plus minusve tortili apice acuminata basi attenuata, bracteis triangularibus acutis circiter 3 lin. longis et inter se 4 lin. distantibus primum supra flores arcte appressis deinde arcte retroflexis, floribus in rhache utrinque uniseriatis numerosis luteo-viridibus punctis brunneo-purpureis conspersis circiter 6 lin. diametro in bractearum axillis solitariis subsessilibus a basi versus apicem ordinatim evolutis retroflexis ad rhachem respicientibus, sepalis ovato-lanceolatis acutis dorsali longiore, petalis sepalis similibus sed minoribus, labello cum pede columnæ articulato crasso carnoso linguiformi recurvo margine infra medium minute papilloso-fimbrillato lobis lateralibus parvis, columna brevi basi lata biauriculata.

M. platyrhachis, *Rolfe in Fl. Trop. Afr.* vol. vii. p. 43; *Orch. Rev.* vol. xi. (1903), p. 284.

Lindley founded the genus *Megaclinium* on *M. falcatum* in 1826 (*Bot. Reg.* t. 989). This was sent from Sierra Leone to the Horticultural Society of London by George Don, in 1822, and it was some years before a second species became known. Now already twenty-five species are on record from tropical Africa, two or three from extratropical S. Africa, and one has been reported from Madagascar. In floral structure *Megaclinium* offers no constant difference from *Bulbophyllum*, but the dorsal sepal is usually longer than the lateral ones, and the genus is always easily recognized by the flattened axis of the inflorescence, which suggested the generic name. It is a remarkable fact that the flowers face the rhachis, in other words, open towards it in a downward direction.

The other species figured in the Magazine are *M. maximum*, Lindl., in part (t. 4028) = *M. Lindleyi*, Rolfe;

*M. purpuratum*, Lindl. (t. 5936) = *M. maximum*, Lindl., on the authority of Mr. Rolfe; and *M. minutum*, Rolfe (t. 7314), the smallest of the genus. *M. platyrhachis* is the largest, though perhaps not the most attractive species.

The plant figured was received at Kew from Zomba, British Central Africa, in 1899. It begins to flower in July, and the same inflorescence, Mr. Watson states, goes on flowering for three months.

*Descr.*—Readily distinguished by the large size of the flattened axis of the inflorescence. *Rhizome* thick, woody. *Bulbs* produced at intervals, oblong-ovoid, acutely 5- or 6-angled, two to three inches long, two-leaved, invested to the middle by large, brown, acute scales. *Leaves* thick, oblong, obtuse, five to six inches long; veins immersed, inconspicuous. *Scapes* from below the bulbs, solitary; peduncle terete, erect, about six inches long, furnished with a few closely sheathing, obliquely truncate bracts; rhachis greenish-yellow, spotted with white and brown, finally changing to a red-brown, very much flattened, strap-shaped, undulate, crenulate, lengthening during the flowering period, bearing flowers in one row on each side, fully developed about a foot long, and an inch and a half broad in the middle, more or less twisted, acuminate, tapering to the base. *Bracts* triangular, acute, about three lines long and about four lines apart, at first closely covering the flower-buds, then closely recurved on to the rhachis. *Flowers* numerous, yellowish green, about half an inch in diameter, thickly spotted with purple brown, in lines along the lateral sepals, about half an inch in diameter, solitary and nearly sessile in the axils of the bracts, opening successively from the base of the rhachis upwards, strongly reflexed and facing the rhachis in a downward direction. *Sepals* ovate-lanceolate, acute, dorsal longer than the lateral. *Petals* similar to the sepals, but smaller. *Labellum* hinged to the foot of the column, thick, fleshy, tongue-shaped, recurved, margin minutely papillose or fringed below the middle; lateral lobes very small. *Column* short, broad at the base, two-winged or auricled at the sides.—*W. B. H.*

---

Fig. 1, a flower; 2, the same from which the sepals and petals have been removed; 3, anther-cap; 4 and 5, pollinia:—*all enlarged.*

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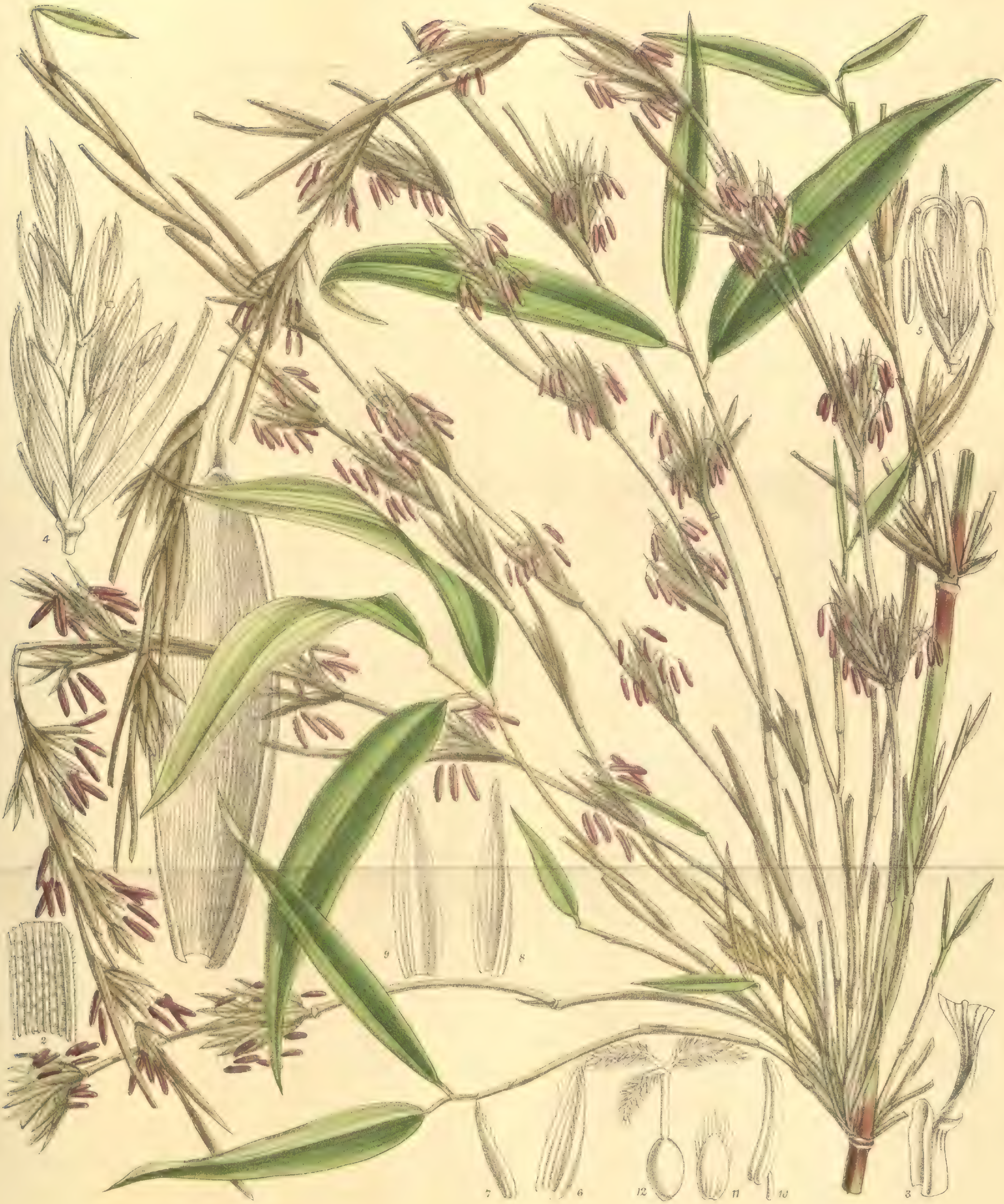
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# TAB. 7947.

# ARUNDINARIA FALCONERI.

*Native of the Temperate Himalaya.*

---

Nat. Ord. GRAMINEÆ.—Tribe BAMBUSEÆ.

Genus ARUNDINARIA, *Mich.*; (*Benth. et Hook. f. Gen. Plant.* vol. iii. p. 1207.)

---

ARUNDINARIA *Falconeri*; culmis perennibus gracilibus ad 30 ped. altis olivaceo-viridibus versus internodiorum basin plerumque purpurascentibus, foliis imperfectis vaginis apice breviter attenuatis in marginibus convexis minute ciliolatis glabris vel primo pilosis intus supra medium venis transversis prominulis notatis purpurascentibus ligulis brevissimis truncatis laminis parvis angustis, foliis perfectis vaginis angustis arctis ligulis brevibus rotundato-truncatis laminis lanceolatis acuminatis 2½–3 poll. longis ⅓–½ poll. latis læte viridibus glaberrimis dense tenuiterque striatis venis transversis vix ullis, inflorescentiis in culmis foliis destitutis paniculato-fasciculatis, spiculis in racemos basi bracteis suffultos secundum ramulos solitarios vel fasciculatos collectis unifloris 1 poll. longis, rhachilla in setam producta, glumis subæqualibus inferiore 1–3-nervi, superiore plerumque 5-nervi spiculæ dimidium magis minusve æquantibus, valva (gluma florente) prominenter 7- vel sub-9-nervi superne ciliata, palea valvam æquante vel superante superne in carinis ciliata prominenter nervosa, antheris purpureis.

A. Falconeri, *Gamble in Ann. Bot. Gard. Calc.* vol. vii. p. 20.

A. falcata, *Rivière in Bull. Soc. d'Acclim.* 3me sér. vol. v. (1878) p. 791-797, fig. 60-62, *non Nees.*

A. nobilis, *Mitford, The Bamboo Garden*, p. 178-180.

Thamnocalamus Falconeri, *Munro in Trans. Linn. Soc.* vol. xxvi. (1868) p. 34.

---

This Bamboo has been in cultivation in Europe ever since 1847, when Ed. Madden, then a Captain in the Bengal Artillery, and an enthusiastic explorer of the North-western Himalaya, forwarded a quantity of seed to Sir William Hooker. It was collected by him on the Upper Pindari River, North-west Kumaon, in September, 1846, and was supposed to be the seed of *Arundinaria falcata*, Nees. Under this name it was soon introduced, mainly through Van Houtte's establishment at Ghent, into the parks and gardens of western Europe, the Riviera and Algeria, and into the greenhouses of the climatically less favoured parts of Europe. It first flowered in Europe in 1875-1877; 1876 being the year when its flowering was almost universal, and when it flowered at Kew. In the Himalaya it ranges from Kumaon to Sikkim at altitudes of 8000-10,000 feet, and it is perfectly hardy in the maritime parts of western Europe, the Riviera and Algeria, forming

tall clumps of great beauty. It seems to be monocarpic, dying after seeding.

The specimen from which the drawing was made was communicated by J. C. Hawkshaw, Esq., of Hollycombe, Liphook, Hants, where five or six plants, all originally taken from one, flowered last spring. The sheath or "imperfect leaf," however, was added from a specimen at Kew, received as *A. nobilis* from Lord Redesdale.

A more complete account of the introduction of this bamboo, and the characters distinguishing it from *A. falcata*, Nees, with which it has long been confused, will be published in the *Gardeners' Chronicle*.

*Descr.*—Perennial, monocarpic. *Culms* slender, tallest thirty feet high, olive green, with a tinge of purple, particularly towards the base of the internodes, without any waxy bloom. *Imperfect leaves* of the young culms more or less purplish, shortly attenuated at the upper end with convex, minutely ciliolate margins, otherwise glabrous, or soon glabrescent; transverse nerves raised on the inner side; ligules short, truncate; limb small, subulate. *Perfect leaves* lanceolate, acuminate, bright green, glabrous, usually edged with purple, contracted at the base into a short purplish petiole; ligule short, rounded or truncate, purplish. *Inflorescences* on leafless culms, forming large, loose, compound panicles, bearing solitary racemes or clusters of racemes of spikelets on slender branches, each raceme being supported by several bracts, and resembling a 5–7-flowered spikelet. *Spikelets* about one inch long, one-flowered, with a bristle-like production of the rhachilla, bearing a rudimentary floret. *Glumes* about half the length of the spikelet, sub-equal, lower one- to three-, upper usually five-nerved; valve (flowering glume) oblong-lanceolate, prominently seven- or nine-nerved, with ciliate margins near the tip; pale as long as or longer than the valve, with the keels ciliate near the tip, and a pair of prominent nerves on each side between the keel and margin. *Anthers* purple. *Lodicules* ciliate. *Style* filiform, longer than the three plumose stigmas.—*Otto Stapf.*

---

Fig. 1, imperfect leaf from a specimen cultivated at Kew; 2, portion of the sheath of the leaf represented in fig. 1, inner side; 3, ligule of a perfect leaf; 4, partial inflorescence, consisting of six spikelets; 5, spikelet; 6, upper glume; 7, lower glume; 8, valve; 9, palea; 10, anther; 11, lodicule; 12, pistil:—*all enlarged*, except fig. 1.

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# TAB. 7948.

# ALOE BAUMII.

*Native of South-west Africa.*

---

Nat. Ord. LILIACEÆ.—Tribe ALOINEÆ.

Genus ALOE, *Linn.*; (*Benth. et Hook. f. Gen. Plant.* vol. iii. p. 776.)

---

ALOE *Baumii*; acaulis (fere acaulis Engl. et Gilg) foliis circiter 15–20 dense rosulatis lanceolatis patentissimis 9–12 poll. longis basi 2–2½ latis 5–6 lin. crassis apice in plantis cultis cito plus minusve marcescentibus supra planis maculis numerosis albidis oblongis longitudinalibus ornatis margine regulariter dentatis dentibus e basi lata rigidissimis corneis pungentibus fere rectis circiter 3 lin. longis inter se 4–6 lin. distantibus, scapo solitario erecto graciliusculo 3–5-pedali supra medium laxe simpliciterque ramoso ramis 3–10 erectis laxifloris, bracteis herbaceis albidis lanceolato-caudatis sursum gradatim minoribus supremis pedicellis paullo longioribus, pedicellis vix 3 lin. longis, floribus rubro-coccineis (flavido-rubescentibus Engl. et Gilg.) 1–1½ poll. longis pendulis, perianthii tubo supra ovarium valde constricto lobis tubo brevioribus erectis (an semper?) interioribus latioribus omnibus subobtusis, staminibus styloque brevissime exsertis.

A. Baumii, *Engler & Gilg, in Warburg* (*Baum's*) *Kunene-Sambesi Exped.* pp. 136, *et* 191-2, fig. 90.

---

We are indebted to Sir Thomas Hanbury for the opportunity of figuring this handsome dwarf *Aloe.* Excellent specimens were sent to Kew by Mr. A. Berger, his enthusiastic gardener, together with notes, and a photograph of the plant, as growing in the beautiful gardens of La Mortola. This was in November of last year, and in the previous April specimens and a photograph of another plant were received from the same source under the name of *A. hereroensis*, Engl., of which also a drawing was made. At Kew we are unable to distinguish them specifically, but Mr. Berger maintains that they are different, and states, amongst other things, that the seeds are totally different. The seeds of *A. hereroensis*, he says, are among the smallest of the genus, and quite wingless, whereas those of *A. Baumii* are relatively large, and prominently winged. We have no seeds for comparison; but Engler describes the perianth of his *A. hereroensis* as "*perianthio supra ovarium haud constricto*," and it is very decidedly constricted in the plant received under that name. In both of the cultivated plants the tips of the leaves are crippled and shrivelled; those of the plant

APRIL 1ST, 1904.

named *A. hereroensis*, crippled much earlier, and the leaves consequently very short. There is no crippling of the leaves in the figures of the wild plants of either of the species in question.

Sir Thomas Hanbury obtained his plant from the Berlin Botanic Garden, whither it was sent by Mr. Baum, the discoverer, now Curator of the Botanic Garden at Rostock. In the narrative of Mr. Baum's journey, as cited above, it is stated that this *Aloe* is extremely common, ranging from the Shella mountains eastward to beyond the Kuito River in Angola; that is between about 14° and 20° E. long., and about 16° to 18° S. lat. The plant photographed in the book named was at Chirumba, on the Kubango River, growing in sandy, gravelly soil, at an elevation of nearly 4,000 ft.

The Kaffirs of Humbe, on the Kunene River, in the west, make cakes of the flowers of *Aloe Baumii*. They boil and press the flowers for this purpose; but we are not told whether Europeans relish the said cakes.

*Descr.*—Stemless or nearly so. *Leaves* from fifteen to twenty, densely rosulate, lanceolate, spreading, nine to twelve inches long, two to two and a half inches broad at the base, nearly half an inch thick, more or less shrivelled at the tip in the cultivated plants, upper surface flat, beset with whitish, oblong spots, margin regularly toothed; teeth almost straight from a broad base, very rigid, horny, sharp, about a quarter of an inch long, a quarter to half an inch apart. *Scape* solitary, erect, rather slender, three to five feet high, loosely, simply branched above the middle; branches three to ten, nearly erect; bracts herbaceous, dirty white, lanceolate, long-pointed, gradually smaller upwards, uppermost slightly exceeding the pedicels, about a quarter of an inch long. *Flowers* loosely racemose, orange-red, one to one and a half inch long, pendulous. *Perianth* conspicuously constricted above the ovary; lobes shorter than the tube, erect, inner ones broader, all somewhat obtuse. *Stamens* and style very shortly exserted. —*W. B. H.*

---

Fig. 1 and 2, anthers; 3, gynæceum:—*all enlarged*; 4, whole plant, as cultivated in Sir Thomas Hanbury's garden:—*about one-sixth natural size.*

7949

M.S.del. J.N.Fitch lith

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# TAB. 7949.

## CROSSOSOMA CALIFORNICUM.

*Native of California.*

---

**Nat. Ord. DILLENIACEÆ.**

Genus CROSSOSOMA, *Nutt.*; (*Benth. et Hook. f. Gen. Plant.* vol. i. p. 15.)

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CROSSOSOMA *californicum*; frutex 3–4-pedalis, tortuoso-ramosus, fere undique glaber, pallide viridis, ramis graciliusculis, cortice amarissimo, internodiis brevibus, foliis alternis brevissime petiolatis exstipulatis demum subcoriaceis oblongo-lanceolatis maximis 3½ poll. longis 1 poll. latis integris basi cuneatis apice obtusis costa excurrente apiculatis venis immersis inconspicuis, floribus albis (antheris luteis) circiter 2 poll. diametro ramulis terminantibus solitariis, pedunculis brevibus, sepalis 5 basi connatis tubum hemisphæricum formantibus, limbi lobis orbicularibus concavis imbricatis petalis multo brevioribus, petalis 5 perigyniis orbicularibus undulatis breviter unguiculatis imbricatis, staminibus numerosis perigyniis 3–4-seriatis quam petalis multo brevioribus, filamentis brevissimis, antheris longitudinaliter dehiscentibus, pistilli carpellis 3–6 basi in stipitem connatis cetera inter se liberis biseriatim multiovulatis, stylis brevissimis stigmatibus capitatis, fructus folliculis 1–6 maturescentibus recurvis maximis pollicaribus ventre dehiscentibus, seminibus numerosis reniformibus arillo longe fimbrillato-multifido vestitis, testa crustacea nigra nitida, embryone clavato parvo leviter curvato in albumine juxta hilum posito, radicula cotyledonibus paullo longiore.

C. californicum, *Nutt. in Journ. Acad. Philad.* n.s. vol. i. (1847), p. 150, t. 22. *Torr. U.S. Pacif. Railr. Rep.* vol. iv. t. 1 (fig. 1 tantum). *A. Gr. Synopt. Fl. N. Am.* vol. i. p. 57. *Rev. Hort.* 1902, p. 103. *M. T. M. in Gard. Chron.* 1903, vol. ii. p. 130, fig. 50. *Engler in Engl. & Prantl Natürl. Pflanzenf. Nachtr.* vol. i. p. 185 (Crossosomataceæ).

---

*Crossosoma* was founded by Nuttall on a specimen of the present species collected by Dr. W. Gambel in the Island of Santa Catalina, off the coast of California in about 33° N. lat. Much finer specimens were subsequently collected by Dr. E. Palmer and others in the far more isolated Guadalupe Island, off the coast of Lower California, in about 29° N. lat. A second species, *C. Bigelowii*, S. Wats., was published in 1876, having previously been confused with *C. californicum* by Torrey, and figured as such. It inhabits the mountains of the mainland of California. A third species, *C. parviflora*, Robins. & Fern., of more recent discovery, is a native of Sonora, North-west Mexico.

The floral structure of *Crossosoma* is somewhat anoma-

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lous, and Nuttall compared it with *Pæonia*, adding that it might be regarded as the type of a new group, which he called the Crossosomeæ. The late Dr. Asa Gray, writing to Dr. (now Sir Joseph) Hooker in 1859, says: "I told Torrey long ago I thought the plant was Dilleniaceous; what do you say to it?" Bentham & Hooker placed it doubtingly at the end of the Dilleniaceæ. Engler (*op. sup. cit.*) treats it as the type of a new natural order, which he places between the Platanaceæ and Rosaceæ, laying great stress on the perigynous position of the petals and stamens.

For my own part I can find no better place for it than the Dilleniaceæ. In habit and flowers *C. californicum* is very much like some species of the Australian genus *Hibbertia*; the follicular fruit is very similar to that of *Dillenia subsessilis*, Gilg, as figured in Engler & Prantl's "Natürlichen Pflanzenfamilien," vol. iii. 6, p. 107, f. 56, and the fringed aril of the seed has an almost exact counterpart in *Tetracera Assa*, DC., figured in the same place.

Again, the small embryo and relatively copious endosperm is a further bar to an alliance with the Rosaceæ.

Exceptional perigyny occurs in so many natural orders that I attach less importance to it than the sum of the other characters.

The specimen figured flowered in the garden of W. Gumbleton, Esq., at Belgrove, near Cork, in August of last year, and it is believed to be the first occasion of this shrub flowering in Europe. What the future of this plant may be in European gardens it is impossible to predict, but it is likely to prove a difficult subject. It should be placed in the driest, warmest and most open situation possible out-of-doors, but it would probably succeed better in a warm, rather dry conservatory.

*Descr.*—A dwarf, tortuously-branched shrub, three to four feet high, glabrous in nearly all parts; bark and leaves pale green. *Branches* slender; internodes short; bark very bitter. *Leaves* alternate, very shortly stalked, exstipulate, at length coriaceous, oblong-lanceolate, the largest three inches and a half long by one inch broad, entire, cuneate at the base, rounded at the tip with the midrib running out into a fine point, veins immersed, inconspicuous. *Flowers* white (anthers yellow), about two inches in diameter, solitary at the ends of the branches; peduncles short. *Sepals* five, connate at the base, forming a hemispherical tube; lobes of the limb orbicular, concave, imbricate, very much shorter than the petals. *Petals* five, perigynous, orbicular, wavy, shortly clawed, imbricate. *Stamens* very numerous, perigynous, in three or four series, much shorter than the petals; filaments very short; anthers dehiscing longitudinally. *Pistil* of three to six carpels, connate at the base on a common stalk, otherwise free; styles very short; stigmas capitate. *Fruit* follicular; follicles one to six, recurved, the largest about one inch long, dehiscing by the inner or ventral suture. *Seeds* numerous, in two rows, reniform, enveloped in a fringed aril; testa crustaceous, black, shining. *Embryo* small, clavate, slightly curved, immersed in the albumen near the hilum; radicle slightly longer than the cotyledons.—*W. B. H.*

Fig. 1, tricarpellary pistil with part of calyx-tube and base of stamens; 2 and 3, stamens; 4, fruit and persistent calyx; 5, a seed enveloped in the aril; 6, the same divested of the aril:—*all except* 4 *enlarged.*

7950

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# TAB. 7950.

# CROTALARIA CAPENSIS.

*Native of South Africa.*

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Nat. Ord. LEGUMINOSEÆ.—Tribe GENISTEÆ.

Genus CROTALARIA, *Linn.*; (*Benth. et Hook. f. Gen. Plant.* vol. i. p. 479.)

---

CROTALARIA *capensis*; frutex ramosus, sempervirens, 3–6-pedalis, cito glabrescens inter species africanas australes extratropicas stipularum obovatarum amplitudine insignis, ramis gracilibus sericeo-puberulis, internodiis quam foliis multo brevioribus, foliis trifoliolatis graciliter longeque petiolatis in speciminibus cultis cum petiolo usque ad 6 poll. longis sed sæpius præcipue in speciminibus sylvestribus 1½–2 poll. longis, foliolis breviter petiolulatis papyraceis obovatis oblanceolatisve majoribus 2 poll. longis basi cuneatis apice rotundatis simul apiculatis cito glabrescentibus, petiolo sericeo-pubescenti, stipulis foliaceis foliolis similibus sed minoribus, racemis terminalibus folia superantibus circiter 7–15-floris, bracteis linearibus acutissimis pedicello dimidio brevioribus, pedicellis circiter semipollicaribus calyceque parce puberulis, floribus suaveolentibus luteis striis rubescentibus variegatis diametro maximo circiter sesquipollicaribus, calycis tubo amplo subgloboso (totoque mellis pleno, fide Jacquin), lobis fere æqualibus ovato-lanceolatis acutis patentibus 3–4 lin. longis, vexillo orbiculato apiculato reflexo circiter 1 poll. diametro, alis parvis oblique ovatis, carinæ falcatæ longe rostratæ petalis inferne liberis superne connatis stamina et stylum includentibus, antheris omnibus basifixis, ovario stipitato puberulo multiovulato, stylo geniculato unilateraliter ciliato, legumine turgido pergameneo duro lævi cum stipite circiter 2¼ poll. longo clavato supra medium crassiore apice breviter rostrato, seminibus circiter 20 oblique reniformibus compressis circiter 2 lin. latis nitidis longiuscule funiculatis.

C. capensis, *Jacq. Hort. Vindob.* vol. iii. (1776-7), p. 36, t. 64. *Harv. & Sond. Fl. Cap.* vol. ii. p. 46. *Melliss, St. Helena*, p. 258. *Wood, Natal Pl.* vol. i. t. 92.

C. arborescens, *Lam. Encycl.* vol. ii. p. 199. *DC. Prodr.* vol. ii. p. 130. *Nouv. Duham.* vol. iv. t. 49. *Rev. Hort.* 1868, p. 11.

C. incanescens, *Linn. f. Suppl.* (1781) p. 323. *Ait. Hort. Kew.* ed. 1, vol. iii. p. 20.

---

According to Aiton, this ornamental, free-flowering shrub was introduced into Kew Gardens by Masson, in 1774; and N. J. Jacquin, who was the first to describe and figure it (1776) states that it was raised from seed sent from the Cape to Royen, without any information. Royen gave the seed to Jacquin several years ("plures annos") before the latter published his description, when it was already a branching shrub ten feet high, ". . . maximam partem anni floribus numerosis onustus."

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In spite of its attractions this shrub does not appear to have got into general cultivation in Europe; but it was early introduced into the island of St. Helena and eastern extra-tropical South America, where it has become naturalized. There is a specimen in the Kew Herbarium from the Montpellier Botanic Garden taken in 1821.

*Crotalaria capensis*, Jacq., inhabits the south-eastern districts of Cape Colony, and extends northward to Natal. It is most nearly related to *C. Natalitia*, Meisn., which has distinctly angular branches and lanceolate stipules.

The plant figured is growing in the Temperate House at Kew, where it flowers freely in the autumn. The pod figured is from a wild specimen, collected in Fish River Heights, Albany, in 1880, by H. Hutton. One of the seeds taken from the pod began to germinate after being a week in water.

*Descr.*—A branching, evergreen shrub, five to ten feet high, but flowering when quite small, early glabrescent. *Branches* slender, at first clothed with a silky tomentum; internodes usually much shorter than the leaves. *Leaves* alternate, petiolate, trifoliolate, in cultivated specimens sometimes as much as six inches long, usually smaller; leaflets shortly petiolulate, thin, obovate or oblanceolate, the largest two inches long, cuneate at the base, rounded at the tip, apiculate, soon glabrous. *Stipules* similar to the leaflets, but smaller. *Racemes* terminal, overtopping the leaves, seven- to fifteen-flowered; bracts linear, very acute, about half as long as the pedicels; pedicels about half an inch long, slightly puberulous as well as the calyx. *Flowers* fragrant, yellow, striped with red-brown, about an inch and a half in their greatest diameter. *Calyx-tube* almost globular (filled with honey, according to Jacquin); lobes nearly equal, ovate-lanceolate, acute, spreading, three to four lines long. *Standard-petal* orbicular, apiculate, reflexed, about an inch in diameter; wing-petals relatively small, obliquely ovate; keel-petals strongly curved, beaked, free at the base, connate above, enclosing the stamens and style. *Anthers* all attached by the base. *Ovary* stalked, puberulous; ovules numerous; style suddenly curved upwards, hairy along the upper edge. *Pod* inflated, thin, hard, tough, glabrous, club-shaped, thicker above the middle, shortly beaked at the tip, including the stalk about two and a quarter inches long. *Seeds* about twenty, distinctly stalked, obliquely kidney-shaped, about two lines broad, dark brown, shining.—*W. B. H.*

Fig. 1, portion of a branch; 2, calyx, stamens and pistil; 3, a wing-petal; 4, a keel-petal; 5 and 6, anthers; 7, pistil with the ovary laid open; 8, a pod: —*all except* 8 *enlarged.*

7951

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# TAB. 7951.

## DIPODIUM PICTUM.

*Native of Malaya.*

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Nat. Ord. ORCHIDEÆ.—Tribe VANDEÆ.

Genus DIPODIUM, *R. Br.*; (*Benth. et Hook. f. Gen. Plant.* vol. iii. p. 539.)

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DIPODIUM *pictum*; herba perennis, caulescens, scandens, undique glaberrima, "ad arborum truncos septem pedes altior" foliis subcoriaceis crebre distichis equitantibusque tricostatis cum nervis intermediis tenuioribus parte vaginante persistente lamina lineari-lanceolata 6–12 poll. longa acuta ab vagina truncatim disjuncta, inflorescentiis axillaribus folia superantibus simplicibus vel pauciramosis multifloris, pedunculo bracteis vel squamis paucis parvis ovatis instructo, racemo (vel panicula) laxo, pedicellis cum ovario circiter pollicaribus, floribus sanguineo-purpureo maculatis circiter 2 poll. diametro, sepalis petalisque similibus oblongo-obovatis lanceolatisve obtusis 9–12 lin. longis, labello erecto ima basi columnæ adnato sepalis æquilongo trilobo, lobis lateralibus parvis dentiformibus, lobo intermedio amplo obovato apice rotundato basin versus attenuato supra basi apiceque et secus medium pilis longis crassis densissime vestito, columna intus basi pilosa, polliniis 2 ovatis sulcatis segregatim ope caudicularum glandulæ magnæ affixis, caudiculis pone pollinia obtuse breviterque productis.

D. pictum, *Reichb. f. Xenia Orch.* vol. ii. pp. 15 *et* 20, t. 107. *Hook. f. Fl. Brit. Ind.* vol. vi. p. 19. *W. W. in Gard. Chron.* 1903, vol. ii. p. 209.

Wailesia picta, *Lindl. in Journ. Hort. Soc.* vol. iv. (1849), p. 261. *Paxt. Mag. Bot.* vol. xvi. p. 321, *cum ic. col.*

Wailesia rosea, *Paxt. errore Reichb. f. Xenia Orch.* vol. ii. p 20. *Nichols. Dict. Gard.* vol. iv. p. 191.

Leopardanthus scandens, *Blume, Rumphia,* vol. iv. (1848), p. 47; *Mus. Bot. Lugd.-Bat.* vol. i. p. 47, fig. 15.

Grammatophyllum scandens, *Griff. Notul.* vol. iii. p. 345; *Ic. Pl. Asiat.* t. 324.

Hydranthus scandens, *Kuhl et Van Hasselt, ex Reichb. f. Xenia Orch.* vol. ii. p. 20.

---

Eight years ago a figure of *Dipodium paludosum*, Reichb. f., appeared in the Magazine (tab. 7464), and the peculiarities of the genus were described, and its distribution given. There are leafless and leafy species, as the genus is defined in Bentham and Hooker's "Genera Plantarum;" and the leafy species are remarkable amongst orchids having distichous, sessile leaves, for the disarticulation in the blade between two and three inches above their insertion. Herbarium specimens have the appearance of the leaves being clipped off, with the exception of a few of the upper ones. In living plants the position where disarticulation will take place is easily seen, as the leaf is of a darker green below than above the point.

Records are not very precise, but from the incomplete

notes of collectors, *Dipodium pictum* and *D. paludosum* start in the ground, and grow up against the trunks of trees; the former to a height of at least seven feet. Whether in very open woods, or otherwise, we have not been able to find out.

*D. pictum* was cultivated at Chatsworth by Paxton forty-five years ago, and he states that it was attached to a block of wood with a little sphagnum, and was suspended in the Orchid House, where it grew rapidly, and flowered in September and October. At Kew it is grown attached to a stump, in a pot, and the plant from which the drawing was made is now nearly two feet high.

Brown does not explain why he chose the name *Dipodium*, literally, two-footed; but there is little doubt it had reference to the two stalks of the pollinia, not to the two small lateral lobes of the lip, as explained by some writers.

*Descr.*—A perennial, herbaceous plant. *Stems* weak, attaching themselves to the trunks of trees, sometimes as much as seven feet long. *Leaves* sheathing, closely distichous, equitant, linear-lanceolate, six to twelve inches long, acute, three-ribbed, with thinner, intermediate nerves, sheathing part and about two inches above persistent, the rest of the leaf disarticulating in a truncate manner. *Inflorescence* axillary, simple or slightly branched, many-flowered, eighteen inches to two feet long; peduncle about as long as the flowering part, furnished with a few small, scale-like bracts. *Raceme* or panicle loose; pedicels, including ovary, about an inch long. *Flowers* coarsely blotched with crimson on a pale ground, about two inches in diameter. *Sepals* and petals similar, oblong-obovate or lanceolate, obtuse, nine to twelve lines long. *Lip* erect, adnate to the base of the column, as long as the sepals, three-lobed; lateral lobes very small and tooth-like; intermediate lobe large, obovate, rounded at the tip, narrowed towards the base, densely clothed with coarse hairs on the upper surface at the base, in the terminal half, and along the middle. *Pollinia* two, separately stalked on the large gland; stalks shortly produced behind above the point of attachment of the pollinia.—*W. B. H.*

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Fig. 1, lip and column; 2, lip detached; 3, column separately; 4 and 5, pollinia:—*all enlarged.*

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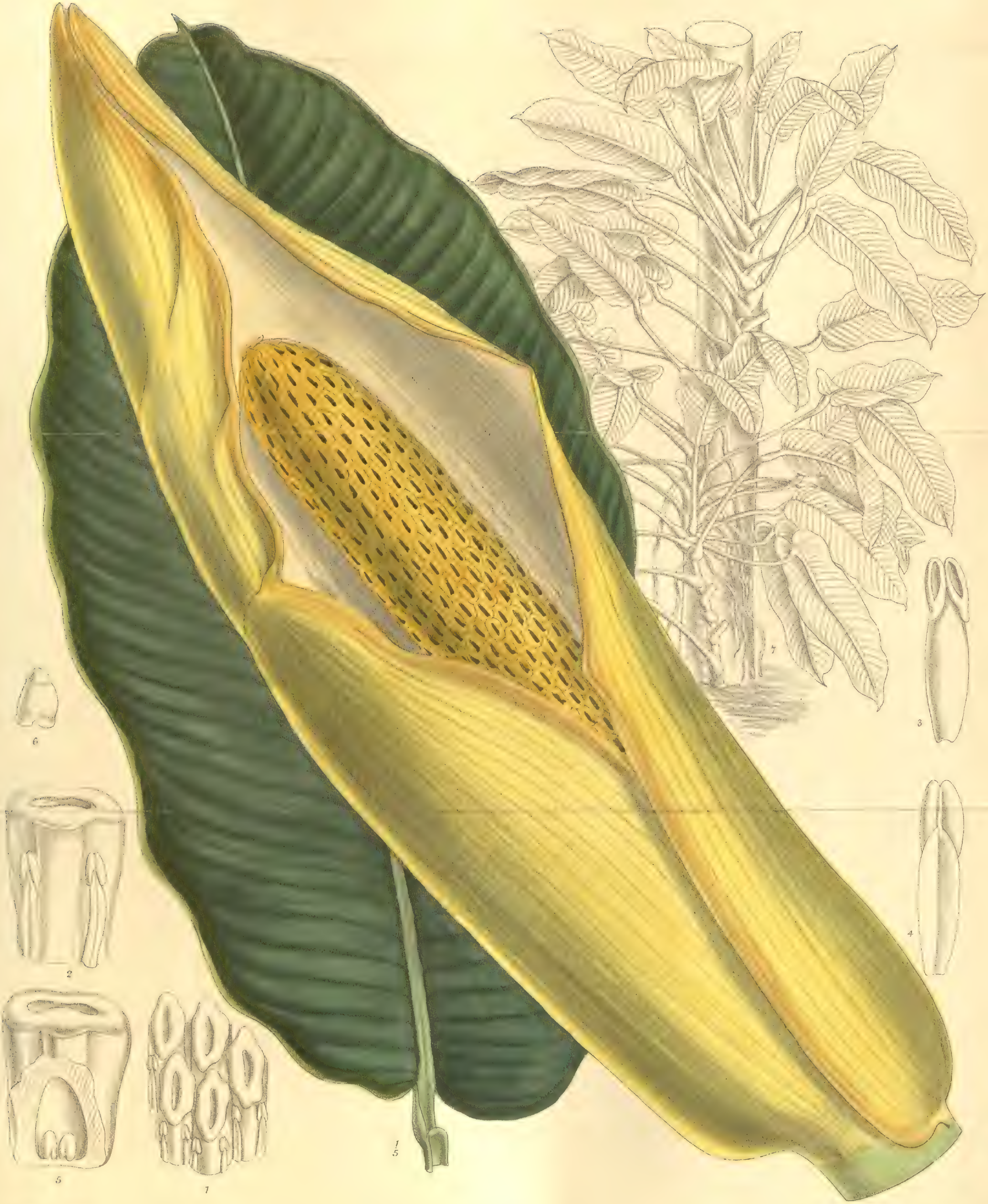

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# TAB. 7952.

# EPIPREMNUM GIGANTEUM.

*Native of the Malayan Peninsula.*

---

Nat. Ord. AROIDEÆ.—Tribe CALLEÆ.

Genus EPIPREMNUM, *Schott*; (*Benth. et Hook. f. Gen. Plant.* vol. iii. p. 993.)

---

EPIPREMNUM *giganteum*; frutex glaber, robustus, in arborum truncis alte scandens, caulibus pauciramosis crassis radices validas usque ad 100 ped. longas ad terram descendentes emittentibus, foliis amplis crasse coriaceis durissimis cum petolis 6–8-ped. longis 1½–2-ped. latis crebre distichis cordato-oblongis acuminatis integris venis transversis numerosissimis, petiolo alato crasso apice geniculato laminam fere æquante amplexicauli, spathis solitariis axillaribus subsessillibus crasse coriaceis in siccis fere lignosis circiter pedalibus spadicem excedentibus per anthesin medio tantum apertis, spadice sessili cylindrico per totam longitudinem florifero, floribus hermaphroditis vel paucis inferioribus femineis creberrimis, perianthio nullo, staminibus 4 quam gynæceo brevioribus, ovario crasso carnoso apice truncato uniloculari biovulato stigmate sessili lineari canaliculato, ovulis basalibus, fructu ignoto.

E. giganteum, *Schott in Bonplandia*, vol. v. 1857, p. 45; *Prodr. Aroid.* p. 389. *Engl. in DC. Monogr. Phanerog.* vol. ii. p. 249. *Hook. f. Fl. Brit. Ind.* vol. vi. p. 548.

Pothos giganteus, *Roxb. Fl. Ind.* vol. i. p. 434.

Scindapsus giganteus, *Schott in Schott et Endlicher, Meletem.* vol. i. p. 21. *Kunth Enum. Pl.* vol. iii. p. 63.

Monstera gigantea, *C. Koch, ex Ender Index Aroid.* p. 74.

---

*Epipremnum giganteum*, Schott, was discovered by William Roxburgh, Superintendent of the Calcutta Botanic Garden from 1793 to 1814, in Prince of Wales Island, Penang, and was introduced and cultivated by him in the Calcutta garden. He described it under the name of *Pothos giganteus*, and it was published in his posthumous "Flora Indica." It has therefore been in cultivation, more or less, for about a century; but we believe its introduction into Europe is due to Mr. H. N. Ridley, Director of the Botanic Gardens, Singapore, who sent a plant of it to Kew in 1897. This plant is now a very striking object in the north-west angle of the Aroid House, where it flowered in June of last year.

Roxburgh remarks that it was the stoutest of the

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parasitic [*sic*] Aroideæ that he had met with, and it is truly very robust and rigid. Its very thick, hard, undivided leaves contrast unfavourably, from an ornamental standpoint, with the divided leaves of the allied *Monstera deliciosa* and *Rhaphidophora decursiva* in cultivation in the same house. The Asiatic and Polynesian genera *Rhaphidophora* and *Epipremnum* are exactly alike in vegetative characters, and the structural and morphological differences are not evident and constant. The former genus is described as having a two-celled ovary with several ovules attached to a central placenta, and the ripe berries as confluent; whereas *Epipremnum* has a one-celled ovary with two basal ovules, and the ripe berries are free from each other. But the species of each genus present certain modifications of these characters, and Sir Joseph Hooker ("Fl. Brit. Ind.," vol. vi. p. 548) suggests that it would be better to unite them. The American genus *Monstera* differs from both in having exalbuminous seeds and a large embryo; otherwise it is very similar. *M. Adansonii*, Schott (B. M. t. 5086) is an example; but it is somewhat surprising that no figure of the better known *M. deliciosa*, Liebm. has ever appeared in the Magazine. This is perhaps the only member of the natural order bearing an edible fruit.

*Descr.*—A climbing, glabrous, robust shrub, which attaches itself to the trunks of trees, and ascends, as nearly as possible, in a straight line. *Stems* often a hundred feet long, three or four inches or perhaps more in thickness, bearing few branches, emitting thick, rope-like roots from every growth, the uppermost ones descending to the earth, and sometimes a hundred feet long. *Leaves* large, thick, coriaceous, very hard, including the long petiole six to eight feet long, one and a half to two feet broad, closely two-rowed when attached to the trunks of trees, cordate-oblong, acuminate, entire; petiole winged, thick, kneed at the top with the blade, stem-clasping. *Spathes* solitary, axillary, subsessile, thick, coriaceous, almost woody when dry, about one foot long, exceeding the spadix. *Spadix* sessile, cylindrical, floriferous throughout. *Flowers* crowded, hermaphrodite or a few of the lower ones female. *Perianth* none. *Stamens* four, shorter than the pistil. *Ovary* thick, fleshy, truncate, one-celled; ovules two, basal; stigma sessile, linear, channelled. *Fruit* unknown.—*W. B. H.*

Fig. 1, a cluster of flowers from the spadix; 2, a flower, showing pistil and two stamens; 3 and 4, ventral and dorsal views of a stamen; 5, section of pistil, showing basal ovules; 6, an ovule; 7, sketch of the Kew plant, about $\frac{1}{20}$ *of natural size:—all other figures enlarged.*

7953

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# Tab. 7953.

# MARSDENIA Imthurnii.

*Native of British Guiana.*

---

Nat. Ord. Asclepiadaceæ.—Tribe Marsdenieæ.

(Genus Marsdenia, *R. Br.*; (*Benth. et Hook. f. Gen. Plant.* vol. ii. p. 772.)

---

Marsdenia *Imthurnii*; frutex alte volubilis, *M. maculatæ*, Hook. et *M. Burchelii*, Fourn., affinis, a priore foliis immaculatis, a posteriore floribus majoribus, pedicellis longioribus differt, caulibus teretibus primum appresse pubescentibus florigeris circiter 3 lin. diametro, internodiis quam foliis brevioribus, foliis oppositis longe petiolatis crassiusculis primum mollibus cordatis interdum medio constrictis in ramis florigeris cum petiolo 6–9 poll. longis maximis 4 poll. latis abrupte acuminatis utrinque præcipue subtus primum appresse pubescentibus bullatis venis crassiusculis subtus elevatis, floribus purpureis 5–6 lin. diametro pubescentibus densissime cymoso-umbellatis, cymis axillaribus brevissime pedunculatis subglobosis 1½–2 poll. diametro, pedicellis pubescentibus 2–3 lin. longis, calycis lobis 5 oblongis obtusis corollæ tubo saltem dimidio brevioribus, corollæ extus pubescentis suburceolatæ tubo lato limbi lobis longiore, lobis ovato-oblongis rotundatis recurvis, coronæ squamis 5 erectis crassis carnosis ovatis obtuse acuminatis quam staminibus brevioribus, polliniis oblongis erectis stipitatis, ovario biloculari multiovulato, fructu ignoto.

M. Imthurnii, *Hemsl.*

---

Like many other genera of the order *Asclepiadaceæ*, *Marsdenia* is not very well defined, but there is no doubt about the plant figured being a congener of *M. maculata*, Hook. (Bot. Mag. t. 4299), which was founded on a plant cultivated at Kew in 1847, received some years previously from Santa Martha, Colombia. It is also near the Brazilian *M. Burchellii*, Fourn., and *M. mollissima*, Fourn. As defined in Bentham and Hooker's "Genera Plantarum," and in Engler and Prantl's "Die Natürlichen Pflanzenfamilien," the genus comprises about sixty species, very widely dispersed in tropical countries; and there is an outlier, *M. erecta*, R. Br., native of the eastern Mediterranean region. *M. Imthurnii* was raised from seed sent from British Guiana to Kew, in 1882, by E. F. im Thurn, C.B., C.M.G., now Lieut.-Governor of Ceylon, but formerly of the Civil Service in the country named. Mr. im Thurn was an ardent investigator of the Natural History of British Guiana, and Kew is indebted to him for many

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seeds and collections of dried plants. *M. Imthurnii* is a vigorous climber, and covers a considerable space on the roof of the Palm House. It has long, hanging branches, which occasionally flower in autumn; the flowers resembling those of a *Hoya.*

*Descr.*—A tall, twining shrub. *Stems* rather slender, terete; flowering branches about a quarter of an inch in diameter; internodes shorter than the leaves, pubescent. *Leaves* opposite, on long petioles, rather thick, soft, cordate, sometimes constricted in the middle, those of the flowering-branches including petiole six to nine inches long, the largest four inches broad, abruptly acuminate, hairy on both sides, especially on the under surface, more or less bullate; veins thick, and raised on the under surface. *Flowers* purple, about half-an-inch across, hairy, arranged in dense, globular, axillary, very shortly stalked, umbellate cymes, one and a half to two inches across; pedicels hairy, a quarter of an inch or less in length. *Calyx-lobes* five, oblong, obtuse, about half as long as the corolla-tube. *Corolla* hairy outside; tube broad, slightly inflated, longer than the lobes of the limb; lobes ovate-oblong, rounded at the tip, recurved. *Coronal-scales* five, erect, thick, fleshy, ovate, suddenly and obtusely acuminate, shorter than the staminal column. *Pollinia* oblong, erect, on long stalks. *Ovary* two-celled; ovules numerous. *Fruit* unknown.—*W. B. H.*

---

Fig. 1, a flower; 2, corona and staminal column; 3, a pair of pollinia; 4, style and stigma:—*all enlarged.*

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# TAB. 7954.

# DICENTRA CHRYSANTHA.

*Native of California.*

---

Nat. Ord. FUMARIACEÆ.

Genus DICENTRA, *Borkh.*; (*Benth. et Hook. f. Gen. Plant.* vol. i. p. 55.)

---

DICENTRA *chrysantha*; herba perennis, basi interdum lignescens et per hiemem persistens, glabra, glauca, erecta, 2–4 ped. alta, caulibus rigidis pauciramosis, foliis amplis bi- vel tripinnatisectis segmentis lobisque ultimis linearibus vel cuneatis acutiusculis, paniculis multiramosis multifloris 1–2 ped. longis, floribus aureis 1–1¼ poll. diametro breviter pedicellatis suberectis, bracteis bracteolisque minutis squamiformibus, sepalis 2 parvis late ovatis caducis, petalis 4 dimorphis circiter pollicaribus 2 exterioribus basi saccatis rotundatis supra medium ovato-oblongis acutis patentibus 2 interioribus oblongis concavis dorso carinatis per totam longitudinem conniventibus stamina stylumque includentibus, staminibus 6 in phalanges 2 petalis exterioribus oppositas connatis, filamentis glabris supra medium filiformibus, ovario uniloculari glabro stigmate capitato bilobato, placentis 2 parietalibus linearibus multiovulatis, capsula clavata cum stylo persistente 1¼–1½ poll. longa lævi polysperma, seminibus numerosis reniformibus compressis circiter ¾ lin. longis lævibus.

D. chrysantha, *Walp. Rep.* vol. i. p. 118. *S. Wats. Bot. Calif.* vol. i. p. 24. *W. Irving in The Garden*, vol. lxiv. (1903), p. 334. *H.N.E. in op. cit.* vol. lxv. p. 18.

Dielytra chrysantha, *Hook. & Arn. Bot. Beech. Voy.* p. 320, t. 73. *Paxt. Fl. Gard.* vol. iii. (1852-3), p. 151, t. 103.

Capnorchis chrysantha, *Planch. in Flore des Serres*, vol. viii. p. 193. t. 820.

Bikukulla chrysantha, *Coville in Contr. U.S. Nat. Herb.* vol. iv. (1893), p. 60.

---

*Dicentra chrysantha*, Walp., was originally discovered by David Douglas, and subsequently by William Lobb, who collected for Messrs. Veitch, of Exeter, where plants were raised from seed, and flowered for the first time in September, 1852. It inhabits dry hills of the Coast Range, Southern California, at elevations of 2,500 to 4,000 feet, and should therefore be given a sheltered situation and a southern exposure. At Kew it succeeds well under a south wall, and last year, in spite of the unfavourable weather, it flowered from July till nearly the end of October. Canon Ellacombe, writing in "The Garden," sums up his experience of the plant in a few words, to the effect that it is hardy, short-lived, and never produces seed.

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Anyone interested in the history of the generic appellations *Dicentra*, *Dielytra* and *Diclytra*, should turn to the "Botanische Zeitung," vol. xv. (1857), p. 641, and vol. xvii. (1859), p. 157.

*Descr.*—A perennial, glabrous, glaucous, erect herb, two to four feet high, sometimes becoming woody at the base, and persistent through the winter. *Stems* stiff, with few branches. *Leaves* large, pinnately divided to the second or third degree; ultimate lobes small, linear or cuneate, somewhat acute. *Panicles* much-branched, many-flowered, one to two feet long. *Flowers* of a brilliant, golden yellow, one inch to one inch and a quarter in diameter, shortly stalked, nearly erect. *Bracts* and bracteoles minute, scale-like. *Sepals* two, small, broadly ovate, falling in the expansion of the flower. *Petals* four, of two shapes, about an inch long; two outer saccate and rounded at the base, ovate-oblong above the middle, acute, spreading; two inner oblong, concave, keeled down the back, more or less cohering their whole length, and enclosing the stamens and pistil. *Stamens* six, in two bundles of three, opposite the outer petals; filaments glabrous, filiform above the middle. *Ovary* one-celled, glabrous; stigma capitate, two-lobed; placentas two, parietal, very narrow, bearing numerous ovules. *Capsule* club-shaped, including the persistent style one inch and a quarter to one inch and a half long, naked, many-seeded. *Seeds* numerous, kidney-shaped, flattened, about three-quarters of a line long, smooth.—*W. B. H.*

---

Fig. 1, a flower; 2, an inner petal; 3, a bundle of stamens; 4, a pistil:—*all enlarged.*

7955

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# TAB. 7955.

## CHLORÆA CRISPA.

*Native of Chile.*

Nat. Ord. ORCHIDEÆ.—Tribe NEOTTIEÆ.

Genus CHLORÆA, *Lindl.*; (*Benth. et Hook. f. Gen. Plant* vol. iii. p. 618.)

CHLORÆA *crispa*; herba terrestris 1 usque ad 3 ped. alta, radicibus carnosis elongatis, caule erecto glabro, foliis basalibus oblongis vel lanceolatis acutis usque ad 8 poll. longis et 1 poll. latis basi amplectentibus imbricatisque, scapo squamis ovatis vel late lanceolatis acutis vel acuminatis distantibus 1–4 poll. longis instructo, racemis pauci- vel multifloris, bracteis lanceolatis acuminatis ovarium æquantibus vel paullo excedentibus, non reticulatim venosis, pedicellis brevibus, ovario subclavato, floribus fere omnino albis, labello ad latera, petalis ad basin minute viridi-maculatis, columna ad basin aurantiaco-maculata, sepalo dorsali oblongo obtuso circa $1\frac{1}{2}$ poll. longo 7 lin. lato, lateralibus e basi lineari obovato-oblongis leviter undulatis apice cochleatis incrassatis $1\frac{1}{2}$ poll. longis 6 lin. latis, petalis ellipticis obtusis sepalo dorsali quarta parte brevioribus ad nervos longitudinales sparse verrucosis, labello basi contracto superne late oblongo vel fere orbiculari parte superiore crispato-dentato lamellis 7–9 fimbriatis basi confluentibus instructo facie inferiore prope margines papillis paucis prædito, columna circa 1 poll. longa, ovario subclavato.

C. crispa, *Lindl. Gen. & Sp. Orch.* p. 401. *Gay, Flor. Chil.* vol. v. p. 445. *Orchid Review*, 1903, p. 133. *Kränzl. Orch. Gen. et Sp.* vol. ii. p. 129, t. 15a.

Cymbidium luteum, *Willd. Sp. Plant.* vol. iv. p. 106.

Epipactis amplo flore luteo, vulgo Gavilu, *Feuillée, Journ. Observ.* vol. ii. (1714), p. 729, tab. 20.

Although this plant was first described by Feuillée nearly two hundred years ago, it appears to have been only recently brought into cultivation. Mr. H. J. Elwes, F.R.S., collected tubers in the sandy plain between Coronel and Concepcion, Chili, in December, 1901, which he presented to Kew, and from them the plant here figured was raised, and it flowered in April, 1903. Lindley, who first distinguished the genus *Chloræa*, knew this species in the dried state only.

It inhabits the plains of Chili, where its long fleshy rootlets bury themselves deeply in the sand, and, probably owing to different degrees of humidity, it varies much in size and the number of flowers produced. Feuillée states that the Indian women mix the juice of

this plant with their "bouillon" to produce a more abundant flow of milk after child-birth.

When figuring *C. longibracteata*, Lindl. (t. 7909) we gave some particulars of the genus. Since then Dr. F. Kränzlin has completed a monograph of the species (*Orchidearun Genera et Species*, vol. ii. pp. 143, tt. 14), of which he describes eighty-four. It is curious that the name *Chloræa* does not occur in the Dictionaries of Gardening, although *C. longibracteata* was in cultivation in 1837, and *C. virescens*, Lindl. (*Bot. Reg.* vol. xxxi. t. 49) in 1845.

*Descr.*—A terrestrial herb, varying from one to three feet in height. *Roots* long, fleshy. *Stem* erect, glabrous. *Leaves* chiefly basal, oblong or lanceolate, acute, the largest eight inches long and one inch wide, sheathing and imbricate at the base. *Scape* furnished with distant, ovate or broadly lanceolate, acute or acuminate scales, one to four inches long. *Racemes* few- or many-flowered; bracts lanceolate, acuminate, about as long as the shortly pedicellate ovary. *Flowers* white, with numerous very minute, green dots near the sides of the lip and base of the petals, and a large orange and brown blotch at the base of the column. *Dorsal sepal* oblong, obtuse, about an inch and a half long and seven lines wide; lateral sepals obovate-oblong from a linear base, slightly undulate, cochleate, and thickened at the apex, about as long as the dorsal and slightly narrower. *Petals* elliptic, obtuse, three-quarters the length of the dorsal sepal, sparingly warted on the longitudinal nerves. *Labellum* contracted at the base, widely oblong or nearly orbicular above, entire below, crispate-dentate above, with seven or nine fimbriate lamellæ confluent towards their base, and a few papillæ on the under surface towards the margins. *Column* about one inch long.—*W. B. H.*

---

Fig. 1, column and anther; 2, pollinia:—*both enlarged.*

7956

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# TAB. 7956.

# IRIS (XIPHION) WARLEYENSIS.

*Native of Bokhara.*

---

Nat. Ord. IRIDEÆ.—Tribe MORÆEÆ.

Genus IRIS, *Linn.*; (*Benth. et Hook. f. Gen. Plant.* vol. iii. p. 686.)

---

IRIS (*Xiphion*) *warleyensis*; herba erecta, usque ad 1 ped. alta sed sæpius brevior, caule tereti glabro, foliis caulinis lanceolatis acuminatis basi amplectentibus, floribus singulis vel binis ordinatis, spathis duabus viridibus lanceolatis acutis vel subobtusis 2 poll. longis, perianthii tubo 2 poll. longo infra cylindrico supra anguste infundibuliformi, perianthii segmentis exterioribus unguibus ligulatis $1\frac{1}{4}$ poll. longis dilute purpureis apice reflexis laminis ovalibus vel fere orbicularibus leviter emarginatis obscure purpureis medio aurantiacis marginibus albis crista crenata infra purpurea supra aurantiaca instructis, segmentis interioribus patentibus violaceis 8 lin. longis trilobis, lobis lateralibus breviter triangularibus, lobo terminali longe subulato, styli ramis violaceis maculo aurantiaco squama crenata instructis circa $1\frac{3}{4}$ poll. longis usque ad 6 lin. bifidis prope apicem obtuse irregulariterque paucidentatis, capsulis iis *I. bucharicæ* similibus.

I. (Xiphion) warleyensis, *The Garden*, vol. lxi. (1902), p. 241; *M. Foster in Gard. Chron.* vol. xxxi. (1902), p. 386, fig. 134; *Journ. Hort.* ser. 3, vol. lxiv. p. 339.

---

In the genus *Iris* the section *Xiphion*, distinguished by its bulbous rootstock, includes several types around which cluster very closely related forms, which for garden purposes are more conveniently regarded as distinct species. The present plant is a member of such a group, which has for its type *I. orchioides*, Carr, and bears a considerable resemblance to var. *cærulea*, Hort., of that species. In structure it is similar to *I. bucharica*, M. Foster, figured in tab. 7914 of this work, which differs in having yellow flowers.

This species was discovered in the neighbourhood of Bokhara, whence it was introduced into cultivation by Messrs. van Tubergen, of Haarlem. The plant from which our figure was made, flowered in the garden of the Hon. Charles Ellis in April, 1902. At Kew *I. warleyensis* has not succeeded so well as typical *I. orchioides*, Carr.

*Descr.*—An erect herb, usually six to twelve inches high. *Stem* terete, glabrous. *Leaves* cauline, lanceolate, acuminate, sheathing at the base. *Flowers* solitary, with sometimes a second added just below it; spathes two, green, lanceolate, acute or sub-obtuse, two inches long. *Perianth-tube* two inches long, cylindrical below, narrowly funnel-shaped above; outer segments with a pale purple ligulate claw about an inch and a quarter long, reflexed at the apex, blade oval or almost orbicular, slightly emarginate, with a central, crenate crest, purple at the base, orange above, surrounded by an orange-coloured area, the remainder dark violet, except for a narrow, white marginal line; inner segments patent, violet, about eight lines long, three-lobed, terminal lobe much longer, subulate. *Style-branches* about an inch and three-quarters long, bifid about six lines down, violet, with an orange-coloured spot and crenate scale at the base of the bifurcation, with a few obtuse, irregular teeth near the apex. *Capsule* similar to that of *I. bucharica*.—*C. H. Wright.*

Fig. 1, stamen, front view; 2, the same, back view; 3, base of bifurcation of style-branches :—*all enlarged.*

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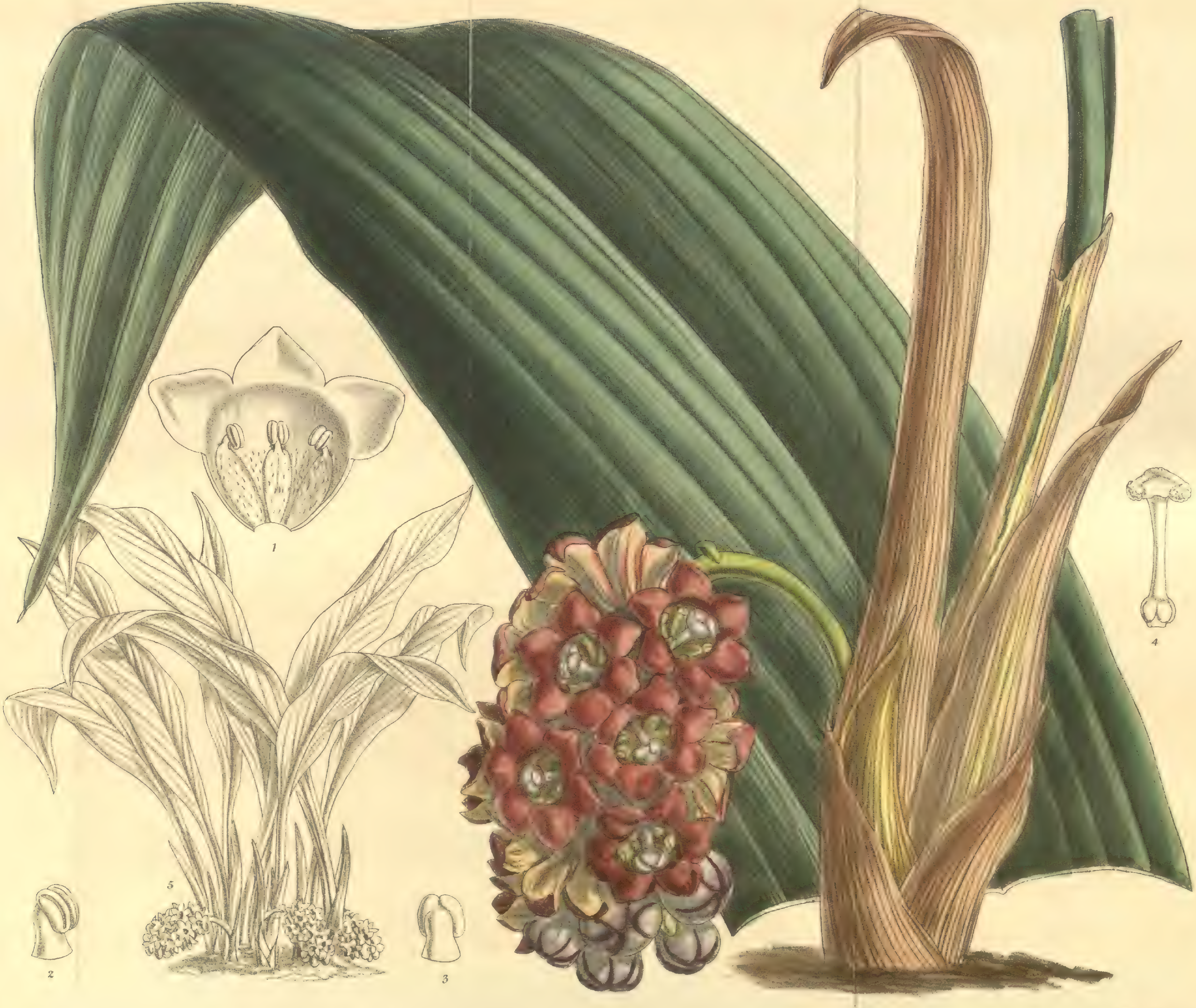

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# TAB. 7957.

# TUPISTRA CLARKEI.

*Native of Sikkim.*

---

Nat. Ord. LILIACEÆ.—Tribe ASPIDISTREÆ.

Genus TUPISTRA, *Ker-Gawl.*; (*Benth. et Hook. f. Gen. Plant.* vol. iii. p. 772.)

---

TUPISTRA *Clarkei*; herba robusta, rhizomate repente crasso, vaginis basalibus ovatis vel oblongis acuminatis membranaceis, foliis approximatis oblanceolatis acuminatis integerrimis glabris nitentibus 4 ped. longis usque ad 4½ poll. latis, nervis obliquis translucentibus, petiolis rigidis erectis, pedunculis teretibus 3 poll. longis, spicis nutantibus vel fere pendulis densifloris usque ad 3–4 poll. longis, bracteis quam floribus multo brevioribus, floribus circa 1¼ poll. diam. intus sordide rubro-purpureis extus primum (perianthii loborum marginibus purpureis exceptis) viridibus demum subfuscis, perianthii tubo breviter campanulato vel fere cupulari intus sparse piloso, lobis 6 patentibus late triangularibus obtusis, filamentis brevissimis crassis supra medium perianthii tubi affixis, antheris oblongis introrsis, ovario parvo trilobo, stylo cylindrico exserto, stigmate peltato quam ovario multo latiore trilobo.

T. Clarkei, *Hook. f. Flor. Brit. Ind.* vol. vi. p. 325.

---

The genus *Tupistra* was founded by Ker-Gawler in the *Botanical Magazine*, tab. 1655, upon a plant introduced by Loddiges from Amboyna, to which the name *T. squalida* was given. Though closely resembling *Aspidistra* in vegetative characters, this genus is distinguished by having its 6-merous flowers arranged in usually dense cylindrical spikes.

*T. Clarkei* was discovered by Sir J. D. Hooker in Sikkim at from 2,000 to 5,000 ft. altitude. A water-colour drawing of it by Cathcart is in the collection at Kew. It flowered at Kew in October, 1877, and again in the Aroid House in November, 1903. The latter plant, from which our illustration was taken, was received from the Royal Botanic Gardens, Calcutta, in the preceding year. It thrives at Kew in a stove, and, on account of its tall, shining green leaves, gracefully recurved towards the apex, is of considerable value for decorative effects.

*T. grandis*, Ridl. (tab. 7829) differs from this species in having erect spikes, while its peltate stigma has numerous radiating ribs on its upper surface, each rib

JUNE 1ST, 1904.

terminating in a small marginal lobe; the whole stigma much resembling the pileus of some of the smaller species of *Mycena*. *T. macrostigma*, Baker (tab. 6280) has fewer flowers in a drooping spike, and its large, red, imbricately lobed stigma is borne on a much shorter style, so as to almost close the mouth of the perianth-tube.

*Descr.*—A robust, glabrous herb. *Rhizome* creeping, thick; basal sheaths ovate or oblong, acuminate, membranous. *Leaves* approximate, oblanceolate, acuminate, quite entire, shining, four feet long, four inches and a half broad; nerves obliquely joined to the midrib at varying heights, translucent; petioles rigid, erect. *Peduncles* terete, three inches long; spikes nodding or almost pendulous, three to four inches long, dense; bracts much shorter than the flowers. *Flowers* about an inch and a quarter in diameter, dull reddish-purple inside, outside at first green with purple margins to the perianth-lobes, at length entirely buff. *Perianth-tube* shortly campanulate or almost cupular, sparingly pilose inside; lobes six, patent, broadly triangular, obtuse. *Filaments* very short and thick, inserted just above the middle of the perianth-tube; anthers oblong, introrse. *Ovary* small, three-lobed; style cylindrical, exserted; stigma peltate, three-lobed, much broader than the ovary.—*W. B. H.*

---

Fig. 1, part of perianth and stamens; 2 and 3, front and back views of an anther; 4 pistil:—*all enlarged.*

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# TAB. 7958.

# BULBOPHYLLUM WEDDELII.

*Native of Brazil.*

---

Nat. Ord. ORCHIDACEÆ.—Tribe EPIDENDREÆ.

Genus BULBOPHYLLUM, *Thouars*; (*Benth. et Hook. f. Gen. Plant.* vol. iii. p. 501 )

---

BULBOPHYLLUM (§ Racemosæ) *Weddelii*; herba epiphytica rhizomate crasso elongato, pseudobulbis sparsis 4-angulatis unifoliatis circiter 2 poll. longis 1–1½ poll. latis, folio oblongo 3–4 poll. longo 1¼-1½ poll. lato utrinque rotundato multinervi, scapis basilaribus solitariis, pedunculo tereti usque ad 2 ped. longo erecto bracteis paucis membranaceis vaginatis ochreiformibus apice obliquis instructo, racemo pendulo multifloro denso circiter semipedali, bracteis membranaceis brunneis lanceolatis acutis 4–5 longis persistentibus, floribus subsessilibus circiter 2 poll. diametro nutantibus, sepalis lineari-lanceolatis acutissimis 1–1¼ poll. longis intus albis extus viridibus, petalis linearibus acutis 2 lin. longis, labello albo-purpureo maculato mobili cum columnæ pede articulato basi subtus gibboso lobis lateralibus minutis lobo terminali linguiformi vel spathulato circiter 6 lin. longo, columnæ brachiis setiformibus utrinque infra brachia unidentatis.

B. Weddelii, *Reichb. f. in Walp. Ann.* vol. vi. p. 251.

Didactyle Weddelii, *Lindl. Fol. Orch.* vol. i. (Didactyle), p. 2.

---

*Bulbophyllum* is one of the most diversified of the genera of orchids, and one of the few epiphytic genera common to America and the Old World. It is also very widely spread, ranging from Central America and the West Indies to Brazil in the West, and China to Australia and New Zealand in the East. A considerable number of species inhabit tropical Africa, the Mascarene Islands and India. Probably not less than one hundred species have been described, and they present greater variety in size, aspect, and structure than any other group of species of orchids generally recognized as congeneric. It is true that generic distinction has been given to various species and groups of species by different botanists, but they are not accepted by the leading writers on orchids, and the late Dr. Reichenbach even went so far as to unite *Cirrhopetalum* with *Bolbophyllum*.

In illustration of this diversity we may refer to some of the species figured in this Magazine. Take, for example, *B. Dayanum*, Reichb. f. (t. 6119); *B. lemniscatum*, Parish

(t. 5961); *B. comosum*, Coll. & Hemsl. (t. 7283), and *B. Beccarii*, Reichb. f. (t. 6567). And they by no means cover the range of variation.

The last-named is one of the largest orchids known, being a tall climber, with thick rhizomes, leaves two feet long by a foot and a half broad, and large clusters of flowers. It is a native of Borneo, where also perhaps the very smallest orchid hitherto described is at home. This is *B. Odoardi*, Reichb. f. Both of these remarkable orchids are named after our old friend, Dr. Beccari, who spent some years in the botanical exploration of Borneo.

Not much bigger is *B. minutissimum*, F. Muell., an Australian species (Fitzgerald's "Australian Orchids," under *Dendrobium*), which has leaves and flowers barely one-twelfth of an inch in diameter.

*B. Weddelii*, Reichb. f., is a very graceful species, with a delicately mobile lip.

*Descr.*—An epiphytic herb, with a thick, elongated rhizome. *Bulbs* distant, angular, one-leaved, about two inches long. *Leaf* oblong, three to four inches long, many-nerved. *Scapes* solitary from the base of the bulbs; peduncle one to two feet long, erect; racemes many-flowered, pendulous, about six inches long. *Flowers* nearly sessile, about two inches in diameter, nodding. *Sepals* linear-lanceolate, very acute, an inch or more long, green outside, white within. *Petals* linear, minute. *Lip* spotted purple and white, tongue-shaped, shorter than the sepals, hinged to the base of the column and mobile.—*W. B. H.*

---

Fig. 1, column, lip, and one petal; 2, column and base of the lip seen from the front and below; 3, base of the lip seen from above; 4, anther-case; 5 and 6, pollen:—*all enlarged.*

7959.

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# TAB. 7959.

# CHAMÆDOREA PULCHELLA.

*Native of Tropical America.*

---

Nat. Ord. PALMÆ —Tribe ARECEÆ.

Genus CHAMÆDOREA, *Willd.*; (*Benth. et Hook. f. Gen. Plant.* vol. iii. p. 910.)

---

CHAMÆDOREA (Collinia) *pulchella*; palma gracilis, caule erecto nudo annulato, foliis in caulis apice confertis erecto-patentibus 4-pedalibus, petiolis sesquipedalibus levibus, supra concavis linea media elevata instructis, subtus convexis, foliolis utraque circa 30 lineari-lanceolatis ad 1 ped. longis et 9 lin. latis ad basin nervorum in facie superiore sparse squamatis, nervis 3 quam reliquis crassioribus, paniculis ♂ interfoliaceis laxe ramosis minute pulverulentis, ramulis ultimis 10 poll. longis, pedunculis circa 2 ped. longis, spathis basalibus 4–5, scariosis, calycis lobis late ovatis marginibus membranaceis purpureis, corollis stipitatis dilute luteis, globosis, lobis triangularibus quam tubo quarta parte brevioribus, staminum tubo quam parte libera longiore, antherarum loculis basi paulo divergentibus, ovarii rudimento ovoideo quam staminibus longiore, stylo brevi crasso, stigmate trilobo, inflorescentia ♀ ignota.

C. pulchella, *L. Linden in Cat. Plant. Comp. Cont. Hort.* 1885, p. 4.

---

This palm was distributed in 1885 by the Compagnie Continentale d'Horticulture, from which a plant was obtained for the Royal Botanic Gardens, Kew, where it flowered in 1891, and again in the autumn of 1903; the naked part of the stem having in the meanwhile increased from about nine inches to eight feet in height. The native country of this species is not known, but most of its allies come from the Central American region. In habit and in the texture of the leaflets it resembles *C. schiedeana*, Mart., from which it differs in having narrower and straighter leaflets. The globose, trifid corolla places it in the section *Collinia*.

About seventy species have been described in the genus *Chamædorea*, some of which have been subsequently separated to found new genera, based chiefly upon the character of the corolla, which varies from deeply lobed and widely expanded to very shortly lobed and nearly globose, and from sessile to stipitate. These characters, however, are generally regarded as insufficient to maintain such genera. The species inhabit the western side of tropical America, from South Mexico to

Peru. Several have been figured in this work, amongst them *C. tenella*, Wendl. (*Nunnezharia tenella*, Hook. f., tab. 6584), which is one of the smallest palms known, and produces fruit when only seven inches high. Most of the plants have slender, solitary stems, but *C. stolonifera*, Wendl. (tab. 7265) sends out stolons from which young plants arise close to their parent. The flowers and also the spadix are sometimes of a bright orange-red, which contrasts well with the dark green of the leaves, which in *C. Ernesti-Augusti*, Wendl. (tab. 4831), and a few other species are broad and simply two-lobed.

*Descr.*—A slender palm. *Stem* erect, about eight feet high, naked, the annular scars of fallen leaves about one inch apart. *Leaves* forming a terminal crown, nearly erect, about four feet long; petiole about a foot and a half long, smooth, concave, with a central ridge above, convex beneath, sheathing at the base; rhachis slightly elevated, with an obtuse ridge above, convex beneath; leaflets in about thirty pairs, linear-lanceolate, central ones one foot long, the larger nine lines wide, but usually much narrower, slightly scaly near the base of the main nerves on the upper side; nerves slender, about three more prominent than the rest. *Male panicle* from between the leaves, much branched, loose, finely powdered; ultimate branches ten inches long; peduncle about two feet long; basal sheaths four or five, scarious. *Calyx* tripartite; lobes broadly ovate, with membranous, purple margins. *Corolla* stalked, pale yellow, globose; lobes triangular, one-quarter the length of the tube. *Filaments* free less than half-way down; anther-cells slightly divergent at the base. *Ovary* rudimentary, ovoid, longer than the stamens; style short, thick; stigma three-lobed. *Female inflorescence* unknown. —*W. B. H.*

Fig. 1, part of ♂ inflorescence; 2, corolla-lobes; 3, stamens and rudimentary ovary; 4, the same in longitudinal section; 5, anther; 6, whole plant (much reduced):—*all except* 1 *and* 6 *enlarged.*

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# TAB. 7960.

# IMPATIENS OLIVERI.

*Native of Tropical Africa.*

Nat. Ord. GERANIACEÆ.—Tribe BALSAMINEÆ.

Genus IMPATIENS, *Linn.*; (*Benth. et Hook. f. Gen. Plant.* vol. i. p. 277.)

IMPATIENS *Oliveri*; herba glaberrima usque ad 4 ped. alta, caulibus erectis dilute viridibus supra nodos sæpe incrassatis, foliis irregulariter verticillatis oblanceolatis acutis vel acuminatis setoso-ciliatis usque ad 8 poll. longis $2\frac{1}{4}$ poll. latis, pedunculis unifloris $2\frac{1}{2}$ poll. longis, pedicellis $1\frac{1}{4}$ poll. longis, bracteolis 2 altera 3 lin. longa lanceolato recurva altera $\frac{1}{2}$ lin. longa, floribus circa $2\frac{1}{4}$ poll. diam. dilute lilacinis vel roseis dorso pallidioribus, sepalis lateralibus ovatis acuminatis apiculatis quam petalis 2–3-plo brevioribus, labio ovato infundibuliformi abrupte reflexeque mucronato parte infundibuliformi $\frac{1}{2}$ poll. longa, calcare curvato tenui $1\frac{3}{4}$ poll. longo, vexillo e basi lata suborbiculari apice recurvato apiculato, alis profunde bilobis, lobo terminali obovato quam laterali subcordato paullo longiore, fructibus oblongis acuminatis, seminibus 1 lin. longis ovoideis verrucosis.

I. Oliveri, *C. H. Wright ex W. Watson in Gard. Chron.* 1903, vol. ii. p. 178.

I. Thomsoni, *Oliv. in Journ. Linn Soc. Bot.* vol. xxi. (1886) p. 398, *non Hook. f. nec Bot. Mag.* tab. 7795.

This plant was discovered by the late Mr. Joseph Thomson, F.R.G.S., at Lykipia, Tropical East Africa, at elevations of 6,000 to 8,000 feet, with flowers scarcely more than an inch and a half across, which under cultivation have greatly increased in size, and rival those of *I. grandiflora*, Hemsl. (tab. 7826).

Our illustration was taken from a plant at Kew, raised from seeds presented by Sir John Kirk, K.C.M.G., which were obtained along the Uganda railway, about 300 miles inland, on volcanic rocks or tufa, at an elevation of 6,800 ft. The flowers of the wild plant are said to be white, but under cultivation they assume a pale lilac or occasionally rosy tint. They were first produced at Kew in July, 1903, and fruit was developed in the following November. Flowers were also produced in September, and at the end of April of the present year plants were in full flower in the *Begonia* house, where they continue to thrive. Being of vigorous habit and a profuse bloomer, it is likely to get into general cultivation.

*Descr.*—A perfectly glabrous herb, about four feet high. *Stems* erect, pale green, often thickened above the nodes.

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*Leaves* in irregular whorls of from four to eight, oblanceolate, acute or acuminate, the largest eight inches long and two inches and a quarter wide, setose-ciliate on the margin. *Peduncles* one-flowered, about two inches and a half long; pedicels one inch and a quarter long. *Bracteoles* two, one three lines long, lanceolate, curved outwards above, the other less than half as long. *Flowers* about two inches and a quarter across, pale lilac, or occasionally rosy above, almost white beneath. *Lateral sepals* ovate, acuminate, apiculate, two or three times shorter than the petals. *Lip* ovate, funnel-shaped, with an abrupt reflexed mucro, funnel-shaped part about half an inch long, abruptly narrowed into a slender, curved spur, about an inch and three-quarters long. *Lip* sub-orbicular from a broad base, recurved and apiculate at the apex. *Wings* deeply two-lobed; terminal lobe obovate, lateral obcordate, shorter and wider than the terminal. *Fruit* oblong, acuminate. *Seeds* one line long, ovoid, verrucose.—*C. H. Wright.*

Fig. 1, stamens; 2, fruit; 3, seed:—*all except* 2 *enlarged.*

7961

M.S. del. J.N. Fitch lith.

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## Tab. 7961.

# LYSIMACHIA Henryi.

*Native of Western China.*

---

Nat. Ord. Primulaceæ.—Tribe Lysimachieæ.

Genus Lysimachia, *Linn.*; (*Benth. et Hook. f. Gen. Plant.* vol. ii. p. 635.)

---

Lysimachia *Henryi*; herba perennis, robusta, subcarnosa, repens, radicans, plus minusve ferrugineo-pubescens, vel villosa, culta fere glabra vel cito glabrescens, caulibus elongatis teretibus floriferis adscendentibus internodiis nunc folia excedentibus nunc brevissimis, foliis plerumque oppositis petiolatis lanceolatis vel ovatis cum petiolo 1–4 poll. longis acutis basi cuneatis vel interdum rotundatis integris venis immersis inconspicuis, floribus luteis circiter 1¼ poll. diametro in axillis foliorum superiorum confertorum solitariis vel interdum subumbellatis pedicellatis, pedicellis plerumque vix semipollicaribus sed interdum elongatis, calycis lobis fere liberis lineari-lanceolatis acutissimis 3–4 lin. longis, corollæ rotatæ lobis obovato-oblongis, staminibus corollæ lobis dimidio brevioribus omnibus inæquilongis filamentis fere ad medium connatis papillosisque supra medium filiformibus, ovario villoso stylo capitato stamina vix excedente.

L. Henryi, *Hemsl. in Journ. Linn. Soc. Bot.* vol. xxvi. p. 52. *W. Irving in The Garden*, vol. lxiv. (1903), p. 269, *cum habitus figura. W. W. in Gard. Chron.* 1903, vol. ii. p. 187.

---

In the letterpress accompanying the figure of *Lysimachia crispidens*, Hemsl. (tab. 7919) some particulars are given of the composition and distribution of the genus. *L. Henryi* bids fair to become as great a favourite as the "Creeping Jenny," *L. Nummularia*, L., and it is an equally vigorous grower, of more robust habit, though probably not so hardy. The flowers, too, are of a richer yellow.

It was originally collected by Dr. A. Henry near Ichang, in the Province of Hupeh, in 1885, and two years later Kew received specimens from the Rev. E. Faber, collected in the Province of Szechuen. Dr. Henry found it at altitudes of 6,000 to 8,000 ft. More recently Mr. E. H. Wilson, collector for Messrs. James Veitch & Sons, sent seeds to that firm, in whose nurseries at Coombe Wood it was raised last year. A small piece sent to Kew for determination was divided and planted in the herbaceous ground and rock-garden, where it soon formed large patches, and flowered profusely and continuously during

June 1st, 1904.

the summer and autumn. Moist ground would probably suit it best, but last season it was moist everywhere, and it grew well in exposed, well drained soil.

*Descr.*—A vigorous, trailing, somewhat fleshy, perennial herb, more or less hairy in the wild state, but almost glabrous under cultivation. *Stems* terete, rooting at the joints, flowering-branches ascending; internodes sometimes longer than the leaves, sometimes very short. *Leaves* mostly opposite, lanceolate or ovate, including the petiole one to four inches long, acute, cuneate, or sometimes rounded at the base, entire; veins immersed, inconspicuous. *Flowers* full yellow, about an inch and a quarter in diameter, solitary in the axils of the upper, crowded leaves, or sometimes sub-umbellate, pedicellate. *Pedicels* mostly under half an inch in length, but sometimes elongated. *Calyx-lobes* almost free, linear-lanceolate, very acute, three to four lines long. *Corolla* rotate; lobes obovate-oblong. *Stamens* half as long as the corolla, spirally unequal in length; filaments connate and papillose almost to the middle, filiform above the middle. *Ovary* villous; style capitate, about as long as the longest stamen.—*W. B. H.*

Fig. 1, floral-leaf, calyx, and pistil; 2, stamens; 3, pistil:—*all enlarged.*

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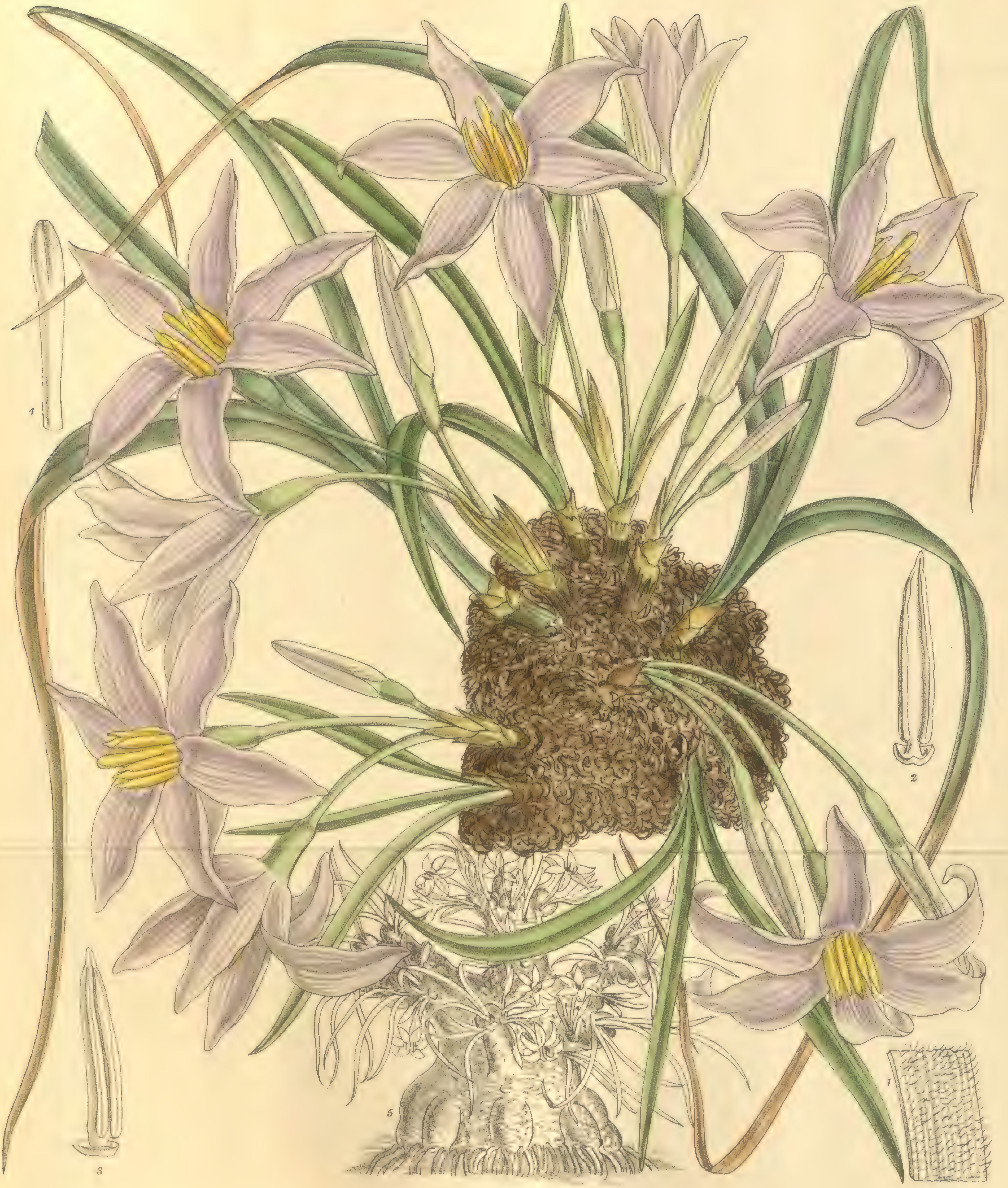

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## TAB. 7962.

# VELLOZIA TRICHOPHYLLA.

*Native of Eastern Tropical Africa.*

---

Nat. Ord. AMARYLLIDACEÆ.—Tribe VELLOZIEÆ.

Genus VELLOZIA, *Vand.*; (*Benth. et Hook. f. Gen. Plant.* vol. iii. p. 739.)

---

VELLOZIA *trichophylla*; frutex caudice vel trunco brevi crassissimo demum saltem 1 ped. diametro, ramis primariis paucis crassis, innovationibus numerosis brevissimis, foliis numerosis gramineis vix rigidis 3–9 poll. longis (in speciminibus sylvestribus sæpe 1–2 ped. longis rigidioribusque) medio circiter 6 lin. latis acutis multinerviis distincte costatis utrinque molliter pubescentibus vel fere lanatis in margine non setulosis, pedunculis sæpius ternis unifloris cum ovario tomentoso 2½–4 poll. longis suberectis, floribus rubro-lilacinis fragrantibus 2½–3 poll. diametro, perianthii segmentis æqualibus lanceolatis acutis 1¼–1½ poll. longis patentibus, tubo nullo, staminibus 6 antheris subsessilibus 5–6 lin. longis, ovario inferiore triloculari multiovulato stylo clavato stamina æquante, capsula ignota.

V. trichophylla, *Hemsl.*

V. equisetoides, var. trichophylla, *Baker in Fl. Trop. Afr.* vol. vii. p. 411.

V. equisetoides, *W. W. in Gard. Chron.* 1903, vol. ii. p. 425, f. 167.

---

Our figure was drawn from one of several fine plants sent to Kew in 1903, by Mr. J. McClounie, Head of the Scientific Department, Zomba, British Central Africa. As will be seen from the above references, Mr. J. G. Baker treated this plant as a variety of his *V. equisetoides*, but living plants and further wild specimens offer characters that fully justify, as Mr. Baker grants, their specific separation. Typical *V. equisetoides* has much longer primary branches; the leaves are shorter and glabrous, except that they are minutely setulose on the margin and along the midrib on the under surface. The leaf-bases break up early, and present something like the appearance of the bristled sheath of an *Equisetum*.

Specimens of a third species have been referred to *V. equisetoides* in the Kew Herbarium:—

V. KIRKII, *Hemsl.*; caule erecto cylindrico simplice vel furcato ½–1 poll. diametro elongato, foliis gramineis suberectis 6–9 poll. longis medio circiter 3 lin. latis acutis ecostatis glabris in margine primum paucisetulosis in siccis luteis rigidis, foliorum basibus persistentibus compactis

JULY 1ST, 1904.

rotundatis arcte imbricatis tarde rumpentibus, pedunculis cum ovario 3–4 poll. longis erectis crebre muricato-tuberculatis, perianthii segmentis 2–2¼ poll. longis medio fere 1 poll. latis acutis 3 interioribus membranaceis 3 exterioribus medio incrassatis extus muricatis.

*V. trichophylla* was first collected by Dr. (now Sir John) Kirk at Zomba, British Central Africa, in 1859, and since by Mr. G. F. Scott Elliot on Mount Ndurani, in 1893-4.

Authors differ widely in their definition of the allied genera *Vellozia* and *Barbacenia*. Bentham and Hooker (*Gen. Plant.* vol. iii. p. 739) characterize the former as having a tubeless perianth, and six or sometimes numerous stamens; the latter as having a more or less developed perianth-tube, and six, or in one species, eighteen stamens. Pax (*Engler & Prantl*, *Natürl. Pflanzenf.* vol. ii. 5, p. 127) includes the species having only six stamens in *Barbacenia*, and those having more than six stamens are referred to *Vellozia*. This is perhaps justified by Vandelli's original descriptions and figures.

Both in Africa and South America the members of the *Vellozieæ* are characteristic in the scanty vegetation of granitic rocky regions. Mr. John Mahon, who has spent some years in British Central Africa and British East Africa, informs us that the various species grow in bleak, exposed situations, always preferring the almost bare granite rock. He never saw them where there was anything approaching good soil, or even associated with the short grass so common in certain situations. In some places they almost clothed the cliffs; in other places they were scattered; growing at altitudes of 6,000 to 7,500 feet.

*Descr.*—A shrub having a thick stock, a foot or more in diameter, and short, thick primary branches. *Flowering-shoots* numerous, very short. *Leaves* numerous, grass-like, scarcely stiff in cultivated specimens, three to nine inches long (often one to two feet long, and more rigid in wild specimens), about half an inch broad in the middle, acute, many-nerved, midrib distinct, softly hairy on both surfaces, without bristles on the margins. *Peduncles* usually in threes, one-flowered, two and a half to four inches long, sub erect, stiffly hairy as well as the ovary. *Flowers* reddish-lilac, very fragrant, two and a half to three inches across. *Perianth-segments* equal, lanceolate, acute, one inch and a quarter to one inch and a half long, spreading; tube none. *Stamens* six; anthers almost sessile, about half an inch long. *Style* club-shaped, equalling the stamens.—*W. B. H.*

Fig. 1, portion of a leaf; 2 and 3, back and front views of a stamen; 4, style:—*all enlarged.*

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# TAB. 7963.

# GEONOMA GRACILIS.

*Native of Tropical America.*

---

Nat. Ord. PALMÆ.—Tribe ARECEÆ.

Genus GEONOMA, *Willd.*; (*Benth. et Hook. f. Gen. Plant.* vol. iii. p. 913.)

---

GEONOMA *gracilis*; palma gracilis, caule erecto 4 ped. alto 1½ poll. diametro nudo annulato, foliis confertis arcuatis 2½ ped. longis, petiolis 1½ ped. longis supra concavis linea media elevata subtus convexis, rhachibus supra obtuse triangularibus subtus convexis, foliolis lineari-lanceolatis acuminatis ad 1 ped. longis 3–6 lin. latis circa trinervibus facie superiore sparse squamatis, paniculis laxis, ramis tenuibus, floribus masculis: sepalis navicularibus scariosis 1 lin. longis apice leviter hirsutis, petalis quam sepalis paulo longioribus ovatis obtusis membranaceis hyalinis, staminum tubo 1½ lin. longo tubuloso-campanulato, filamentorum parte libera quam tubo dimidio breviore, antheris lineari-oblongis ½ lin. longis loculis basi tantum connatis late divergentibus, ovarii rudimento minuto, floribus femineis: sepalis oblongis obtusis scariosis 1 lin. longis petalis ovatis acutis submembranaceis, staminodiis cupulatim connatis quam stylo (ramis exclusis) æquilongis, ovario abortu 1-loculari, stylo basali, ovulo ascendente.

G. gracilis, *Linden & André in Illustr. Hortic.* vol. xxi. (1874) p. 73, t. 169. *H. Wendl. ex Kerchove, Les Palmiers*, pp. 245 et 323 (1878).

G. Riedeliana, *H. Wendl. ex Linden & André, loc. cit.*

---

This palm was first described in 1874 by Linden and André, who quote as a synonym the previously unpublished name of *Geonoma Riedeliana*, H. Wendl. In Kerchove's "Les Palmiers," it is reduced to *G. Riedeliana*, but a *G. gracilis*, H. Wendl., is retained, which is not described, but illustrated by a reproduction (on a reduced scale) of Linden and André's figure of their *G. gracilis*.

Although this palm has long been in cultivation, its origin is still obscure. Wendland records it from Costa Rica; while Linden and André state that it was collected in Eastern Brazil by Riedel, and afterwards by Binot, who sent it to Europe. It is not mentioned in Martius's "Flora Brasiliensis," nor by Tonduz in his "Flora de Costa Rica." Its nearest ally is the Brazilian *G. Schottiana*, Mart., which much resembles it in habit, but differs in having sub-opposite, decussate flowers. It also approaches some of the forms of *G. Spruceana*, Traill.

The plant here figured was shown at the Ghent Quinquennial International Horticultural Exhibition in 1902, and was afterwards purchased for the Royal Botanic Gardens, Kew, where it flowered in the Palm House in September and October, 1903.

The spadices are monœcious, but at the time when the male flowers are fully expanded the female flowers are still immersed in the tissue of the spadix; thus showing a form of protandry.

*Descr.*—A slender palm. *Stem* erect, about four feet high and an inch and a half in diameter, naked, closely ringed. *Leaves* forming a terminal crown, arching, about two feet and a half long; petioles about a foot and a half long, concave, with a central ridge above, convex beneath; rhachis obtusely triangular above, convex beneath; leaflets linear-lanceolate, acuminate, the larger about a foot long, three to six lines wide, three-nerved, sparingly scaly on the upper side. *Panicles* loose, with slender branches. Male flowers: *Sepals* boat-shaped, scarious, one line long, slightly hairy at the apex. *Petals* a little longer than the sepals, ovate, obtuse, membranous, hyaline. *Filaments* united for two-thirds of their length into a tubular-campanulate cup; anthers linear-oblong, half a line long, attached by the base only, widely divergent. *Ovary* rudimentary, minute. Female flowers: *Sepals* oblong, obtuse, scarious, one line long. *Petals* ovate, acute, thin. *Staminodes* united into a cup reaching to the base of the style-branches. *Ovary* by abortion one-celled; style basal, trifid; ovule ascending.—*W. B. H.*

---

Fig. 1, male flower; 2, sepal of the same; 3, petals and anthers; 4, stamens seen from inside of the bud; 5, stamens and rudimentary ovary; 6, portion of spadix bearing female flowers; 6*, portion of the same enlarged; 7, sepal of the same; 8, petals and pistil; 9, pistil; 10, whole plant *much reduced*:—*all except 6 and 10 enlarged.*

7964

M.S. del. J.N. Fitch lith.

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# TAB. 7964.

# SPATHOGLOTTIS HARDINGIANA.

*Native of North Burma.*

---

Nat. Ord. ORCHIDACEÆ.—Tribe EPIDENDREÆ.

Genus SPATHOGLOTTIS, *Blume*; (*Benth. et Hook. f. Gen. Plant.* vol. iii. p. 511.)

---

SPATHOGLOTTIS *Hardingiana*; inter species hucusque cognitas labello lineari lobis lateralibus destituto distincta; pseudobulbis late conico-ovoideis obscure multi-angulatis 6–8 lin. longis bi- vel trifoliatis squamis membranaceis duplo longioribus instructis, foliis lanceolatis acuminatis basi breviter petiolatis 5–7 poll. longis medio ad 1 poll. latis plicatis membranaceis circiter 5–7-nerviis nervis secundariis numerosis, scapis basilaribus solitariis vel binis erectis $\frac{3}{4}$–$1\frac{1}{4}$ ped. altis ut pedicellis pubescentibus, floribus numerosis roseo-purpureis vel interdum lilacinis, pedicellis gracilibus cum ovario 10–14 lin. longis, bracteis lanceolatis acuminatis 3–5 lin. longis, sepalis lanceolatis subacutis recurvis 6–7 lin. longis, petalis lineari-lanceolatis acutis recurvis 6–7 lin. longis, labello oblongo-lineari subacuto 4–5 lin. longo basi auriculis parvis suberectis instructis, medio bicalloso, callis erectis cuneato-obovatis flavis brunneo-punctatis, columna gracili arcuata 5 lin. longa supra medium anguste alata.

S. Hardingiana, *Par. et Rchb. f. Otia Bot. Hamb.* p. 45; *Hook. f. Fl. Brit. Ind.* vol. v. p. 815. *Ridl. in Journ. Linn. Soc.* vol. xxxii. pp. 217, 312. —Semper sphalmate Handingiana. Parish's Drawings in bibl. Kew. vol. i. n. 79. *Orch. Rev.* vol. xi. (1903), p. 319.

---

*Spathoglottis Hardingiana* is a remarkable species, described in 1878, and dedicated to Mr. Coles-Harding (misspelt Handing), a skilful cultivator of Orchids, who resided for some time in Moulmein. He obtained it from Bhamo. For a long period it was only known from the original specimens and drawing, but at length it was rediscovered in the Lankawi Islands, on the western side of the Malay Peninsula, by Mr. C. Curtis, Assistant Superintendent of Forests, Penang. It is recorded as growing on rocks. The plant here figured is from a later importation, received from Mr. Curtis in 1902. It flowered the following autumn, in a tropical house, and again in November last. There were two varieties, one having bright rose-purple flowers, and the other very pale lilac. Of the latter a single flower is shown, fig. 4. It is quite an anomalous species, differing from all others in having the side lobes of the lip reduced to a pair of very

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small suberect auricles. In other respects it conforms to the characters of *Spathoglottis*. These differences may be seen by reference to *S. Petri*, Reichb. f. (t. 6354); *S. Vieillardii*, Reichb. f. (t. 7013); *S. ixioides*, Lindl. (t. 7060); *S. gracilis*, Rolfe (t. 7366); and *S. Kimballiana*, Sander (t. 7443).

It may be mentioned here that we forgot to state in the letterpress to tab. 7958 that we were indebted to Mr. F. W. Moore, Keeper of the Glasnevin Botanic Garden, for the specimen of *Bulbophyllum Weddelii* there figured.

*Descr.*—Very distinct from all other species in the lip being reduced to a long, linear body without side lobes, these being represented by a pair of very small auricles. *Bulbs* broadly conical-ovoid, obscurely many-angled, six to eight lines long, two- or three-leaved; basal, membranous sheath about twice as long as the pseudobulb. *Leaves* lanceolate, acuminate, five to seven inches long, and an inch broad in the middle, plicate, membranous; primary nerves five to seven; secondary ones numerous. *Scapes* basal, solitary or sometimes two from the same bulb, erect, nine to fifteen inches high, loosely pubescent, flowering part five to eight inches long. *Flowers* numerous, rose-purple or sometimes pale lilac, about an inch across. *Pedicels*, including the ovary, ten to fourteen lines long, slender. *Bracts* lanceolate, acuminate, three to five lines long. *Sepals* lanceolate, subacute, recurved, six to seven lines long. *Petals* linear-lanceolate, acute, recurved, six to seven lines long. *Lip* linear, subacute, four to five lines long, with a pair of small, rounded, suberect auricles at the base, and a pair of cuneate-obovate, somewhat compressed, nearly erect tubercles about the middle, these being bright yellow, dotted with brown. *Column* slender, curved, about five lines long, narrowly winged above the middle.—*R. A. Rolfe.*

---

Fig. 1, lip and column; 2, the column; 3, the pollinia, showing the attachment to the viscous gland; 4, a flower of the lilac-coloured variety:—*all except 4 enlarged.*

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# TAB. 7965.

# CHRYSANTHEMUM ORNATUM.

*Native of Japan.*

---

Nat. Ord. COMPOSITÆ.—Tribe ANTHEMIDEÆ.

Genus CHRYSANTHEMUM, *Linn.*; (*Benth. et Hook. f. Gen. Plant* vol. ii. p. 424.)

---

CHRYSANTHEMUM *ornatum*; herba perennis, ramosa, 2–3 ped. alta, caulibus ramisque gracilibus angulatis albo-pubescentibus, foliis exstipulatis graciliter petiolatis papyraceis crassis discoloribus subtus albis circumscriptione ovatis in ramis floriferis 1½–3 poll. longis subpalmatim pinnatifidis segmentis obtusis vel rotundatis subtus margineque albo-tomentosis supra atroviridibus sparse pubescentibus, capitulis laxe corymbosis distincte pedunculatis 1¾–2 poll. diametro, involucri bracteis circiter 3-seriatis omnibus similibus ovato-oblongis obtusis medio albo-tomentosis margine brunneo-purpureis, achæniis glabris obliquis.

C. ornatum, *Hemsl.*

C. marginatum, *Raffill in Gard. Chron.* 1904, vol. i. p. 51, fig. 22, non Pyrethrum marginatum, *Miq. Fl. Ind. Bat.* vol. ii. p. 86=C. marginatum, *N. E. Br. in Kew Bulletin*, 1888, p. 99.

---

The late C. J. Maximowicz, who was a very critical Botanist, and whose knowledge of the plants of Eastern Asia was based on observations in the country itself, enlarges (*Mélanges Biologiques*, vol. viii. p. 519) on the difficulties of dealing with the forms of *Chrysanthemum*, or, as he preferred calling it, *Pyrethrum sinense*, DC., and *C. indicum*, L., although the strictly wild specimens left no doubt of there being two distinct species concerned in the varieties resulting from over a thousand years' cultivation in China and Japan.

We were in doubt as to the best way of naming the plant figured, but arrived at the conclusion that the least unsatisfactory way was to give it a single name, without attempting to decide whether it should be regarded as a variety of *C. sinense*.

By some mischance, but probably on account of the strong resemblance in the foliage, it has appeared in some of the gardening papers under the designation of *Chrysanthemum marginatum* (*Pyrethrum marginatum*, Miq. Fl. Ind. Bat. vol. ii. p. 86), a species having very numerous quite small flower-heads usually destitute of ray-flowers.

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We have carefully examined the literature of the subject, and the nearest approach that we have found to our plant is figured in the Japanese "Somoku Zusetsu," under the name of *Pyrethrum Decaisneanum*, Maxim. But the plant there figured does not at all agree with Maximowicz's original description.

*C. ornatum* was raised at Kew from seeds obtained in 1895 from the University Botanic Garden, Tokyo. It was first tried in the open ground, where it made vigorous bushes three feet high, but failed to flower before it was cut down by frost. Last year it was tried as a pot-plant, and the result was so satisfactory that it is confidently anticipated that it will come into favour in the greenhouse, where it succeeds admirably, flowering about Christmas time. It is so distinct from any of the varieties of the Florists' Chrysanthemums as not to be brought into comparison with them; yet its parentage or descent is uncertain.

*Descr.*—A branching herb forming dense bushes three or four feet high, and as much through. *Stems* and branches slender, angular, clothed with a white pubescence changing green. *Leaves* without stipules, slenderly stalked, papery, rather thick, clothed with a white felt underneath and on the margin, ovate in outline, one inch and a half to two inches long on the flowering branches, somewhat palmately pinnatifid; primary segments usually five, obtuse or rounded, usually two- or four-toothed; teeth obtuse. *Flower-heads* loosely corymbose, distinctly stalked, an inch and three-quarters to two inches across. *Bracts* of the involucre in about three series, all similar, ovate-oblong, obtuse, tomentose, white in the centre, purple-brown on the margin. *Achenes* small, oblique, glabrous.—*W. B. H.*

---

Fig. 1, an involucral bract; 2, a ray-flower; 3 and 4, disk-flowers; 5, anthers; 6, style-arms:—*all enlarged.*

M.S. del, J.N. Fitch lith.

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# TAB. 7966.

# PITCAIRNIA SPATHACEA.

*Native of Argentina.*

---

Nat. Ord. BROMELIACEÆ.—Tribe PICAIRNIEÆ.

Genus PITCAIRNIA, *L'Hérit.*; (*Benth. et Hook. f. Gen. Plant.* vol. iii. p. 665.)

---

PITCAIRNIA *spathacea*; acaulis, foliis patentibus vel recurvis lineari-acuminatis usque ad 16 poll. longis 1 poll. latis supra primum furfuraceis demum glabris subtus perpetuo albo-squamatis, spinis sursum curvatis marginatis, pedunculis 1 ped. altis, paniculis fere 2 ped. altis, bracteis navicularibus acuminatis dilute roseis, sepalis ovatis valde acuminatis pedicello multo longioribus dilute roseis apice viridibus 1 poll. longis, petalis obovatis obtusis convolutis basi nudis obscure cæruleis 1¼ poll. longis, ovario ovoideo, stylo quam ovario triplo longiore, stigmate brevi spiraliter contorto.

P. spathacea, *Griseb. in Goett. Abh.* vol. xxiv. (1879) p. 329; *Baker, Handb. Bromel.* p. 102.

Puya spathacea, *Mez in DC. Monogr. Phan.* vol. ix. p. 481.

---

This is one of the few species of *Pitcairnia* having petals destitute of a basal scale inside. It was discovered by Lorentz on the banks of the Rio Primero, Argentina. The date of its introduction into cultivation is not known, but the plant from which our figure was taken in February last was raised from seeds received from the Breslau Botanic Garden in 1896, and has been grown with other hard-leaved Bromeliaceæ in the Succulent House at Kew, where they grow better than in a more humid atmosphere.

The genera *Pitcairnia* and *Puya* are very closely allied, differing chiefly in the capsule of the former being septicidal in dehiscence, and more or less adnate to the calyx, while in the latter it is loculicidal and quite free. It was probably on account of the very slight degree of union of ovary and calyx that the present species was transferred to *Puya* by Mez. About 130 species of *Pitcairnia* are known, of which about twenty have been figured in the Magazine, some of them under the name of *Puya*. *P. atrorubens*, Baker (*Puya Warscewiczii*, Wendl.—B. M. t. 5225), is a striking plant with a dense spike of pale yellow flowers subtended by large purplish-brown imbricate bracts, which again flowered at Kew last year. In other species the inflorescence is more lax, varying from a simple raceme in *P. Andreana*, Linden (B. M. t. 6480), to a panicle in *P. alta*, Hassk. (t. 6606); the latter species differing from *P. spathacea* in having unarmed leaves and scarlet flowers.

*Descr.*—A stemless plant. *Leaves* patent or the lower recurved, linear, acuminate, the largest sixteen inches long and one inch broad, at first furfuraceous on the upper surface, at length glabrous, with persistent, white scales on the lower surface; marginal spines curved upwards, and almost parallel with the leaf-margin. *Panicle* simply branched, nearly two feet high, on a peduncle one foot high; bracts boat-shaped, acuminate, pale rose. *Sepals* ovate, very acuminate, much longer than the pedicels, pale rose, green at the apex, one inch long. *Petals* obovate, obtuse, convolute, without a basal scale, dull blue, an inch and a quarter long. *Ovary* ovoid; style three times as long as the ovary; stigma short, spirally twisted.—*C. H. Wright.*

---

Fig. 1, leaf-margin; 2, scale from the under surface of leaf; 3, petal; 4, stamen; 5, pistil; 6, sketch of entire plant:—1 to 5 *enlarged*, 6 *reduced*.

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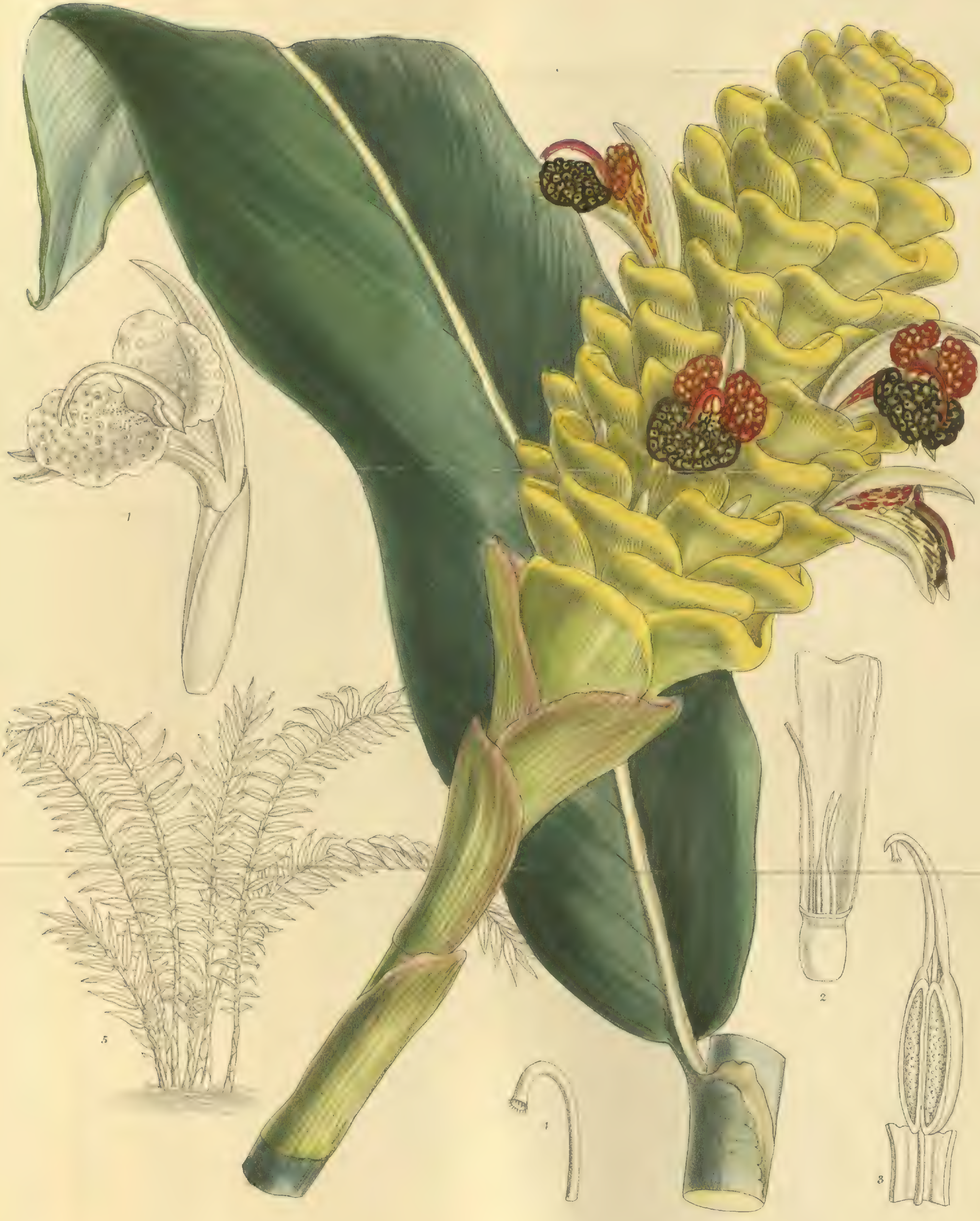

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# TAB. 7967.

## ZINGIBER SPECTABILE.

*Native of the Malay Peninsula.*

---

Nat. Ord. SCITAMINEÆ.—Tribe ZINGIBEREÆ.

Genus ZINGIBER, *Adans.*; (*Benth. et Hook. f. Gen. Plant.* vol. iii. p. 646.)

---

ZINGIBER *spectabile*; herba elata, rhizomate repente, caulibus erectis vel inclinatis glabris viridibus usque ad 8 ped. altis, foliis fere distichis oblongo-lanceolatis acuminatis supra glabris subtus sparse pilosis vel glabrescentibus 1 ped. longis 3 poll. latis breviter petiolatis, ligula rotundata integra margine membranacea, scapo radicali, spica oblongo-cylindrica 6 poll. longa, pedunculo 1½ ped. longo, bracteis rotundatis 1¼ poll. latis unifloris pallide viridibus, marginibus aurantiacis involutis, calyce spathaceo 1 poll. longo, corollæ tubo 1½ poll. longo subcylindrico, lobis oblongo-lanceolatis acutis superiore cucullato dilute luteis, labello rubro-brunneo luteo- vel albo-maculato, lobo terminali emarginato quam lateralibus rotundatis paullo majore, staminodiis lateralibus nullis, basalibus anguste lanceolatis, filamento alato apice utrinque unidentato, stylo filiformi apice truncato et ciliis marginato.

Z. spectabile, *Griff. Notul.* vol. iii. p. 413. *Baker in Hook. f. Flor. Brit. Ind.* vol. vi. p. 247. *Maingay mss.* vol. v. p. 48.

---

This plant, which flowered in the Aroid House at Kew in July of last year, bears the most showy inflorescence of any species of the genus, the reddish-brown lip spotted with yellow forming a conspicuous contrast to the background of yellow-edged bracts. The bracts in *Z. Parishii*, Hook. f. (B. M. t. 6019) are also edged with yellow.

The species was discovered at Veruppe, in Malacca, by Griffith, who published a description, without details, of the structure of the flower. Subsequently Dr. A. C. Maingay collected it in the same region, and drew up an excellent description (*loc. sup. cit.*), which agrees with the present plant, except that the bracts are described as reddish-pink. He designates it as "a most elegant species," an opinion confirmed by Mr. H. N. Ridley, M.A., F.L.S., Director of the Botanic Gardens, Singapore, by whom the plant here figured was sent to Kew. Specimens have also been collected in Perak by Mr. L. Wray, Jun., and by Sir George King's collector, while apparently the same species was found by Kurz in the South Andaman Island.

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The nearest ally of this species is *Z. inflexum*, Blume (*Enum. Pl. Javæ*, p. 43), a very rare Javan species, which differs in having the bracts almost keeled in the upper part and the lip blackish purple.

*Descr.*—A tall herb. *Rhizome* creeping. *Stems* erect or inclined, glabrous, green, eight feet high. *Leaves* almost distichous, oblong-lanceolate, acuminate, glabrous above, sparingly pilose or glabrescent beneath, one foot long, three inches wide, shortly petiolate; ligule short, rounded, entire, membranous at the margin. *Scape* springing from the rhizome; flower-spike oblong-cylindric, six inches long; peduncle one foot and a half long; bracts rotundate, one inch and a quarter wide, one-flowered, pale green, margins orange-yellow, involute. *Calyx* spathaceous, one inch long. *Corolla-tube* subcylindrical, an inch and a half long; lobes oblong-lanceolate, acute, the uppermost hooded, pale yellow. *Lip* reddish-brown, spotted with yellow; terminal lobe emarginate, a little larger than the roundish basal ones. *Lateral staminodes* none, basal narrowly lanceolate. *Filament* winged, with a lateral tooth on either side near the insertion of the anther. *Style* filiform, truncate and surrounded by a ring of hairs at the apex.—*C. H. Wright.*

---

Fig. 1, a flower; 2, vertical section of basal part of flower; 3, anther and style; 4, stigma:—*all enlarged*; 5, reduced view of the whole plant.

M.S. del. J.N.Fitch lith.

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# TAB. 7968.

# VANDA PUMILA.

*Native of Sikkim.*

---

Nat. Ord. ORCHIDEÆ.—Tribe VANDEÆ.

Genus VANDA, *R. Br.*; (*Benth. et Hook. f. Gen. Plant.* vol. iii. p. 578.)

---

VANDA *pumila*; herba epiphytica caulibus brevibus, foliis distichis confertis recurvis linearibus canaliculatis 4–8 poll. longis 6–9 lin. latis apice oblique 3-dentatis, racemis axillaribus erectis sæpe 3-floris folia vix excedentibus, floribus suaveolentibus eburneis, labello sanguineo striatis, circiter 2-poll. diametro, sepalis petalisque similibus oblongo-spathulatis, petalis angustioribus, labelli obconico-calcarati lobis lateralibus brevibus triangularibus acutis intermedio vittato ovato-oblongo apice obtuse breviterque acuminato, capsula clavata alata circiter bipollicari.

V. pumila, *Hook. f. Fl. Brit. Ind.* vol. vi. p. 53. *King & Pantling in Ann. Calc. Bot. Gard.* vol. v. p. 45, t. 68, *et* vol. viii. p. 216, t. 288.

V. cristata, var., *Lindl. Fol. Orch., Vanda,* p. 10.

---

Lindley, who treated this species as a variety of his *V. cristata* (B. M. t. 4304), only knew it from Cathcart's drawing in the Kew Herbarium; but it differs from that and the allied *V. alpina*, Lindl., in the longer spur-sac of the lip, and the absence of horns on the tip of the lip. It was first described as a distinct species by Sir Joseph Hooker in the place cited above, and subsequently figured by Sir George King and Mr. Pantling twice over; the first figure being a very poor one.

Although *V. pumila* and its allies cannot compare for beauty with *V. tricolor*, *V. insignis* and other congeners, it is a very pretty, free-growing orchid, having deliciously fragrant flowers. It inhabits hot valleys of the Sikkim Himalaya, at about 2,000 feet above sea-level, and therefore requires tropical treatment. In its native haunts it flowers, or begins to flower, in May.

The specimen figured was sent to us in June, 1903, by Mr. F. W. Moore, the Keeper of the Glasnevin Botanic Gardens; the only place in the United Kingdom, so far as we know, where it is in cultivation.

*Descr.*—An epiphytical herb. *Stems* short. *Leaves* densely distichous, recurved, narrow, channelled, four to eight inches long, six to nine lines broad, obliquely three-

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toothed at the tip. *Racemes* axillary, erect, usually three-flowered, scarcely exceeding the leaves. *Flowers* very fragrant, ivory-white, lip striped with crimson, from two inches to two inches and a half in diameter. *Sepals* and petals similar, the latter somewhat smaller, oblong-spathulate, sometimes tipped with crimson. *Lip* with a prominent, obconical spur; lateral lobes short, triangular, acute, erect; intermediate lobe or main part of the lip ovate-oblong, shortly and somewhat obtusely acuminate, striped with crimson. *Capsule* club-shaped, winged, about two inches long.—*W. B. H.*

---

Fig. 1, side view of lip and column; 2, front view of column; 3 and 4, pollen-masses:—*all enlarged.*

M. S. del. J. N. Fitch lith.

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# Tab. 7969.

# THUNBERGIA primulina.

*Native of Eastern Tropical Africa.*

---

Nat. Ord. Acanthaceæ.—Tribe Thunbergieæ.

Genus Thunbergia, *Linn.*; (*Benth. et Hook. f. Gen. Plant.* vol. ii. p. 1072.)

---

Thunbergia (§ Euthunbergia) *primulina*; species nova, fere undique villosa, ex affinitate *T. sericeæ*, a qua differt floribus majoribus luteis distincte pedunculatis; *T. atriplicifoliæ* etiamque similis, sed pedunculis multo brevioribus floribus minoribus; caudice nano lignoso incrassato, caulibus numerosis annuis debilibus sericeo-villosis, foliis breviter sed distincte petiolatis crassiusculis rhomboideo-ovatis 1½–2½ poll. longis utrinque unilobulatis basi rotundatis vel truncatis apice obtusis vel rotundatis primum sericeo-villosis demum glabrescentibus, floribus axillaribus solitariis luteis 1¼–1½ poll. diametro, pedunculis circiter semipollicaribus, bracteis ovato-oblongis vix acutis corollæ tubum fere æquantibus, calyce brevi multifido glanduloso segmentis linearibus, corollæ tubo sursum leviter dilatato curvato, limbi lobis patentibus obcordatis tubo intus pilorum lineis duabus instructo, staminibus brevibus paullo supra tubi basin insertis, antheris mucronatis loculis basi barbulatis calcaratisque.

T. primulina, *Hemsl.*

---

*Thunbergia*, including *Hexacentris* (B. M. t. 4786), and *Meyenia* (B. M. t. 5013), presents great variety in habit and in the shape, size and colour of the flowers. About ninety species have been described; out of which upwards of fifty-five are peculiar to tropical Africa. The present species is only known from the cultivated plant raised from seed presented to Kew last year by Sir John Kirk, who collected it on the main escarpment of the Uganda Railway, at an elevation of 8,000 feet.

The plant figured flowered in a greenhouse in August of last year, and promises to develop into a very ornamental subject for a cool house; but its value can hardly be estimated from a young specimen flowering for the first time. Apart from the tube of the corolla, the flowers are singularly like those of the common primrose, both in colour and shape. In general appearance it closely resembles the extratropical South African *T. atriplicifolia*, Mey., and it was provisionally given that name.

Among other ornamental species previously figured in the Magazine, we may note the old favourite *T. alata* (t. 2591 and 3512); *T. grandiflora* (t. 2366); *T. laurifolia*

(t. 4985); *T. natalensis* (t. 5082); *T. coccinea* (t. 5124), and *T. affinis* (t. 6975).

*Descr.*—Perennial, at first silky-hairy in nearly all parts. *Rootstock* thickened, woody. *Stems* numerous, weak, annual. *Leaves* shortly stalked, rather thick, rhomboid-ovate, one inch and a half to two inches and a half long, with one small lobe on each side, rounded or truncate at the base, obtuse or rounded at the tip, becoming almost glabrous. *Flowers* axillary, solitary, primrose-yellow, with an orange ring around the mouth of the tube, about an inch and a half across; stalks about half an inch long; bracts ovate-oblong, nearly as long as the tube of the corolla. *Calyx* very short, glandular, multifid; segments unequal, linear. *Corolla-tube* nearly cylindrical, slightly curved; lobes of the limb spreading, obcordate; tube furnished inside with two longitudinal lines of hairs. *Stamens* very short, inserted a little above the base of the tube; anthers mucronate, with the cells bearded and spurred at the base. *Stigma* nearly equally two-lipped, included.—*W. B. H.*

Fig. 1, bracts laid open, showing calyx and pistil; 2, calyx laid open and pistil; 3, corolla-tube laid open, showing the stamens; 4 and 5, front and back views of anther:—*all enlarged.*

M.S. del, J.N. Fitch lith.

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# TAB. 7970.

# TECOMA SHIRENSIS.

*Native of Tropical Africa.*

---

Nat. Ord. BIGNONIACEÆ.—Tribe TECOMEÆ.

Genus TECOMA, *Juss*; (*Benth. et Hook. f. Gen. Plant.* vol. ii. p. 1044.)

---

TECOMA (§ Tecomaria) *shirensis*; frutex erectus, 4–10 ped. altus, ramis subteretibus minute pubescentibus, foliis oppositis vel rarius ternatis longipetiolatis 4–9 poll. longis imparipinnatis 4–6-jugis, foliolis ovatis acute acuminatis, plus minus serratis supra glabris subtus in venarum axillis pilosis ceterum glabrescentibus, racemis terminalibus simplicibus vel sæpius cymas trifloras gerentibus, pedunculo folia æquante vel superante, rhachi pedicellisque pubescentibus, bracteis lineari-subulatis caducis, calyce tubuloso-campanulato 5–7 lin. longo leviter pubescente glanduloso, lobis deltoideo-ovatis acuminatis tubi dimidium æquantibus, corolla anguste infundibuliformi antice curvata valde bilabiata, labio postico erecto, antico deflexo, lobis late ovatis obtusis, staminibus exsertis, antherarum lobis supra connatis, disco cupulari, ovario minute lepidoto, ovulis in loculis 4-seriatis, capsula 4½ poll. longa rostrata.

**T. shirensis,** ***Baker in Kew Bull.*** **1894, p. 30.**

T. Whytei, *C. H. Wright in Kew Bull.* 1897, p. 275.

**T. nyikensis,** ***Baker in Kew Bull.*** **1898, p. 159.**

Tecomaria shirensis, *K. Schum. in Engl. Pflanzenw. Ost-Afr.*, C. (1895), p. 363.

---

The genus *Tecoma* as founded by Jussieu (*Gen. Pl.* p. 139) was a heterogeneous assemblage of species. The plant from which the name of the genus was derived, *Tecomaxochitl* of Hernandez (*Nov. Pl. Hist.* p. 408) is almost certainly not a member of the Bignoniaceæ at all; but it has not yet been satisfactorily identified, though Dunal (*DC. Prodr.* vol. xiii. pars i. p. 536), refers it to *Solandra guttata*, with the remark that the figure is extremely bad. The other species included in *Tecoma* by Jussieu were *Bignonia stans* and *B. radicans*, both having pinnate leaves and a regular calyx, and *B. pentaphylla*, which has digitate leaves and an irregularly split calyx. As it was apparent that the pinnate- and digitate-leaved species could not be retained in the same genus, Bentham and Hooker (*Gen. Plant.* vol. ii. p. 1044) restricted the name *Tecoma* to the former. Unfortunately, however, Bureau, followed by other continental botanists, referred the digitate-leaved species to *Tecoma*, so that much confusion now prevails in the nomenclature of the genus. This is accentuated by the

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fact that the pinnate-leaved set has been split up into no fewer than seven genera, based on very slender characters. Some idea of these genera may be gathered by comparing figures which have appeared in this Magazine, such as those of *T. stans*, Juss. (t. 3191), a native of tropical America, *T. jasminoides*, Lindl. (t. 4004), Australia, and *T. fulva*, G. Don (t. 4896), Chili, with *T. capensis*, Lindl. (*Bot. Reg.* t. 1117), and *T. undulata*, G. Don (Smith, *Exot. Bot.* t. 19). All of these are retained in *Tecoma* by Bentham and Hooker, and have in common pinnate leaves, a loculicidal capsule and a regular calyx.

*Tecoma shirensis* is a shrub of vigorous growth, with flowers very similar to those of *T. capensis*, but much finer. In company with its nearest ally *T. Nyassæ*, Oliv. (Hook. Ic. Pl. t. 1351), which differs chiefly in the shape of the leaflets, it grows on the high plateau of Nyassaland, where it flowers from May to September, at altitudes of between 2000 and 7000 feet above the sea. The plant from which the present figure was prepared was raised from seed sent to Kew in December, 1902, by Mr. J. McClounie, Head of the Scientific Department, Zomba. It flowered in March of the present year.

*Descr.*—An erect shrub, four to ten feet high; branches nearly round, minutely pubescent. *Leaves* opposite or three at a node, four to nine inches long, unequally pinnate; leaflets in four to six pairs, ovate, serrate, tapered to a sharp point and glabrous, except on the lower surface, where there are tufts of hairs in the axils of the veins. *Inflorescence* terminal, bearing a number of usually three-flowered, shortly-stalked cymes; rhachis and pedicels pubescent; bracts linear-subulate. *Calyx* tubular-campanulate, five to seven lines long, pubescent and glandular; lobes triangular-ovate, tapering, acute. *Corolla* funnel-shaped, curved forwards; upper lip erect; lower lip deflexed. *Stamens* exserted; anther-lobes connate above. *Ovary* scaly; ovules in four rows in each cell. *Capsule* four and a half inches long, beaked.—*T. A. Sprague.*

---

Fig. 1, half of calyx cut away to show pistil; 2, base of corolla with stamens and staminode; 3 and 4, anthers; 5, apex of style; 6, dehiscing fruit; 7, a seed:—*all except 6 enlarged.*

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# TAB. 7971.

## EUPHORBIA VIPERINA.

*Native of South Africa.*

---

Nat. Ord. EUPHORBIACEÆ.—Tribe EUPHORBIEÆ.

Genus EUPHORBIA, *Linn.*; (*Benth. et Hook. f. Gen. Plant.* vol. iii. p. 258)

---

EUPHORBIA (§ Euphorbium) *viperina*; species ex affinitate *E. Caput-Medusæ* et *E. parvimammæ* a quibus foliis minutis squamiformibus differt; etiam *E. tridentatæ* (*E. anacanthæ*, B. M., t. 2520) affinis, ab ea glandulæ lobis linearibus recedit; frutex carnosus, erectus, inermis caule nunc brevi obconice incrassato apice plus minusve stellatim ramoso nunc elongato cylindrico podariis carnosis elongato-hexagonis tecto, foliis ovatis vix 1 lin. longis acutis cito deciduis, pedunculis brevissimis monocephalis, involucri campanulati lobis albis hirtis fimbriatisque, glandulis carnosis lacerato-bilobis, staminibus filamentis plumosis intermixtis, ovario hirsuto stylo glabro stigmate late trilobato lobis crenulatis, fructu ignoto.

E. viperina, *A. Berg. in Monatsschr. für Kakteenk.* vol. xii. (1902), p. 39.

---

The genus *Euphorbia* is one of the largest in the vegetable kingdom, numbering five to six hundred species, which exhibit the greatest variety in size, habit, duration and foliage. They are spread all over the world, except the colder regions. The section to which *E. viperina* belongs is confined to the Old World, and mainly to Africa; and the species are still very imperfectly known.

The growth of *E. viperina* and allied species is very irregular under different conditions. When propagated from seed the primary stem develops as an obconical body, which bears numerous branches spreading in a stellate manner from near the top. The further development we have not observed. When propagated from cuttings the branching is one-sided, and the main stem elongates considerably—two to three feet.

This species comes very near the one figured in the Magazine (t. 2520), as *E. anacantha*, Ait., especially in the minute, scale-like leaves; but the involucral glands are very different. *E. globosa*, Sims (B. M. t. 2624) is another species of the same section. *E. meloformis*, Ait., is very much like some of the unarmed species of *Melocactus*.

It is a noteworthy fact that although the genus *Euphor-*

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*bia* is represented by a hundred or more species in Central America, the headquarters of the Cactaceæ, the sections *Diacanthium* and *Euphorbium* of the genus *Euphorbia*, which simulate the Cactaceæ so closely, are not represented in that region.

*Descr.*—A fleshy, erect or straggling, thornless shrub, one to two feet high. *Stems* and branches usually cylindrical, clothed with spirally arranged, fleshy "podaria" or leaf-bases. *Leaves* minute, ovate, acute, scarcely a twelfth of an inch long, falling soon after development. *Peduncles* short, bearing a single head of flowers. *Involucre* campanulate; lobes white, hairy, fringed; glands fleshy, two-lobed; lobes crenulate. *Stamens* (male flowers) interspersed with plumose filaments. *Ovary* hairy; style glabrous; stigma broadly three-lobed; lobes crenulate. *Seed-vessel* unknown.—*W. B. H.*

Fig. 1, an inflorescence; 2, part of involucre laid open; 3, an involucral gland; 4, one of the feathery filaments which are interspersed with the male flowers; 5, a male flower; 6, a female flower and bases of stalks of male flowers:—*all enlarged*; 7, whole plant, as it was when drawn:—*about half natural size.*

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Late Director of the Royal Botanic Gardens of Kew,

ASSISTED BY

WILLIAM BOTTING HEMSLEY, F.R.S., F.L.S., &c.,
Keeper of the Herbarium,
ROYAL BOTANIC GARDENS OF KEW.

Nature and Art to adorn the page combine,
And flowers exotic grace our northern clime.

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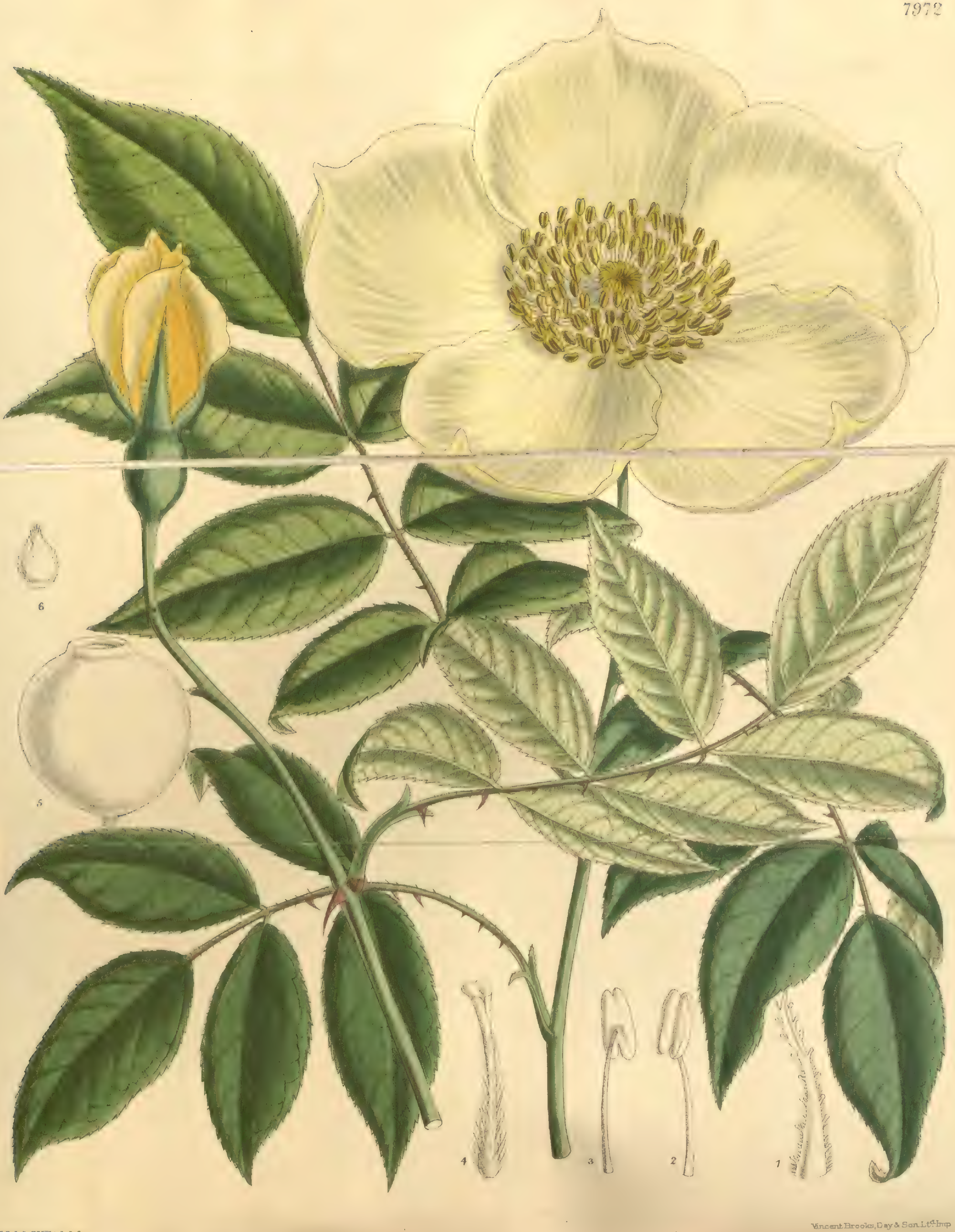

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# TAB. 7972.

# ROSA GIGANTEA.

*Native of Eastern India, North Burma and Western China.*

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Nat. Ord. ROSACEÆ.—Tribe ROSEÆ.

Genus ROSA, *Linn.*; (*Benth. et Hook. f. Gen. Plant.* vol. i. p. 625.)

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ROSA (§ Indicæ) *gigantea*; species ex affinitate *R. indicæ*, Linn., a qua ramulis sæpissime ebracteatis unifloris floribus fructibusque majoribus differt; frutex robustissimus, alte scandens vel vagans, caulibus basi 3–4 poll. diametro aculeis fere rectis circiter 3–4 lin. longis armatis, ramulis floriferis inermibus vel aculeis paucis recurvis armatis, foliis in ramis floriferis 3–7-foliolatis 3–9 poll. longis, petiolis aculeolatis setoso-glandulosis, foliolis breviter petiolulatis lanceolatis 1–3 poll. longis acuminatis margine calloso-serrulatis glabris, stipulis integris fere ad apicem adnatis parte libera lineari minute glandulosa, pedunculis sæpius unifloris interdum trifloris sæpius elongatis nudis, floribus albis vel lutescentibus (petalis in alabastris extus fere aureis) 4–6 poll. diametro, sepalis anguste lanceolatis longe acuminatis usque ad 1 poll. longis præcipue intus albo-pubescentibus margine minute glandulosis, petalis obovato-rotundatis $1\frac{3}{4}$–$2\frac{1}{2}$ poll. diametro abrupte obtuseque acuminata, carpellis pilosis, fructu globoso circiter $1\frac{1}{2}$ poll. diametro inermi glabro.

R. gigantea, *Collett, ex Crépin in Comptes-Rendus des Séances de la Soc. Bot. Belg.* vol. xxvii. (1888), pp. 150–154, *et* vol. xxviii. (1889), pp. 11–14. *Gard. Chron.* 1889, vol. ii. p. 12, fig. 4. *Coll. et Hemsl. in Journ. Linn. Soc. Bot.* vol. xxviii. (1890), p. 55, t. 9. *W. C. Leach in Gard. Chron.* 1903, vol. i. pp. 188 *et* 211. *S. W. F. in diar. cit.* p. 278.

R. macrocarpa, *Watt, ex Crépin in Comptes Rendus des Séances de la Soc. Bot. Belg.* vol. xxviii. (1889), p. 13.

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This remarkable Rose was, we believe, first discovered by Dr. (now Sir George) Watt in Manipur, in 1882, at an altitude of 7000 ft., and there are excellent specimens in the Kew and other herbaria collected by him. He regarded it as an undescribed species, and named it *R. macrocarpa*, but he never published a description. The name, however, has appeared in print in the place cited above.

In 1888 the late Col. Sir Henry Collett discovered the same species in the Shan Hills, Upper Burma, some five degrees south of the original locality, and he sent dried specimens and seeds of it to Calcutta and Kew. More recently it has been collected in Mengtze, Yunnan, South-western China, by Mr. W. Hancock and Dr. A. Henry. The former describes the flowers as white, and sometimes fifteen inches in circumference.

SEPTEMBER 1ST, 1904.

Sir Henry Collett was greatly interested in his Rose, which impressed him as one of the most striking objects in the forests of the Shan Hills, and he was desirous of its being published. Accordingly the Calcutta specimens were sent to Prof. F. Crépin, who described them under Collett's proposed name.

The seed sent to Kew germinated, and the plants grew apace. Some were given to other gardens; some were tried at Kew under various conditions, but none flowered. One was planted out in the Succulent House, where it remained for years, and must have made hundreds of yards of stems and branches, but it never flowered. At the present time there is a plant in the Temperate House with shoots some fifty feet long, showing no signs of flowering.

Albury Park, Guildford, one of the seats of the Duke of Northumberland, is the only place, except under glass with Mr. Cant, the Nurseryman, we believe, where it has flowered in England, and we are indebted to Her Grace the Duchess for the opportunity of giving a coloured figure of it. Mr. Leach, the Head Gardener at Albury, writes that two flowers only were produced in 1903, "the first of which was just on six inches across." In February of the present year, the same plant bore about a dozen flowers, the largest being a little more than five inches and a half across.

Every possible method of propagation has been tried ineffectually in order to obtain flowers more freely in this country; yet it flowers profusely on the Riviera.

The drawing of the fruit was made from a dried specimen, soaked out. Sir George Watt tells us that it is as large as a small apple, bright yellow, edible, and it is sold in the bazaars of Manipur State.

Fortune's "Double Yellow," which is very closely allied to *R. gigantea*, is also usually a very shy bloomer, though it sometimes flowers freely when worked as a standard.

*Descr.*—A very vigorous, climbing or rambling shrub. *Stems* as much as three or four inches in diameter at the base, more or less armed with nearly straight prickles about a quarter of an inch long. *Flowering-branches* usually unarmed, sometimes furnished with a few curved prickles. *Leaves* usually of five or seven leaflets, uppermost often of three leaflets, three to nine inches long; petioles furnished with small prickles and glandular bristles. *Leaflets* lanceolate, one to three inches long, glabrous, serrulate. *Stipules* entire, minutely glandular, adnate to the petiole almost to the top, free part linear. *Peduncles* often elongated, naked, one- or rarely three-flowered. *Flowers* white or more or less tinged with yellow, almost golden in bud, four to six inches across. *Sepals* linear-lanceolate, acuminate, about an inch long, pubescent and white on the inner surface, minutely glandular along the margin. *Petals* orbicular-obovate, largest two inches and a half across, abruptly acuminate. *Carpels* hairy. *Fruit* globose, about an inch and a half in diameter, quite smooth.—*W. B. H.*

Fig. 1, free part of stipule; 2 and 3, stamens; 4, pistil; 5, fruit; 6, a ripe carpel:—*all except 5 enlarged.*

# TAB. 7973. — Plate following

# DYSCHORISTE HILDEBRANDTII.

*Native of East Tropical Africa.*

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Nat. Ord. ACANTHACEÆ.—Tribe RUELLIEÆ.

Genus DYSCHORISTE, *Nees*; (*Benth. et Hook. f. Gen. Plant.* vol. ii. p. 1077.)

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DYSCHORISTE *Hildebrandtii*; frutex ramosissimus, tripedalis, caulibus quadrangularibus juvenilibus viridibus glandulosis vetustioribus glabris pallide brunneis, foliis ovato-lanceolatis obtusis basi breviter attenuatis utrinque pubescentibus absque petiolo usque ad 1½ poll. longis 9 lin. latis, petiolis 4 lin. longis, cymis axillaribus breviter pedunculatis paucifloris sæpius trifloris, calyce 6 lin. longo extus glanduloso intus pilis simplicibus appressis vestito, segmentis 5 quam tubo æquilongis lineari-lanceolatis longe acuminatis, corolla lilacina fauce loboque antico violaceo-striato bilabiata, labio postico 2-lobo lobis oblongis obtusis 3 lin. longis 1½ lin. latis, labio antico 3-lobo oblongo-spathulatis obtusis lobis 5 lin. longis 2 lin. latis, filamentis inferioribus quam superioribus paullo longioribus et cum iis breviter connatis, antheris oblongis obtusis 1 lin. longis prope basin dorsifixis, ovario oblongo 1¼ lin. longo glabro, stylo filiformi.

Dyschoriste Hildebrandtii, *Lindau in Engl. & Prantl, Natürl. Pflanzenfam.* vol. iv. 3 B. p. 302; *Engl. Pfl. Ost. Afr.* C. p. 367; *C. B. Clarke in Dyer, Fl. Trop. Afr.* vol. v. p. 76.

Calophanes Hildebrandtii, *S. Moore in Journ. Bot.* 1880, p. 8.

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*Dyschoriste* consists of about sixty species, twenty-two of which are found in Tropical Africa, while a few occur in South Africa, Madagascar and India, and the remainder in America, from Texas to Peru. Most are small shrubs of scrubby habit, and but few have found their way into cultivation. Some have been cultivated under *Calophanes*, a name published by D. Don in Sweet's "British Flower Garden," ser. 2, tab. 181 (1833), which must be superseded by *Dyschoriste*, Nees, published in the preceding year.

*Dyschoriste* is allied to the well-known genus *Ruellia*, from which it differs in having only two ovules in each cell, while the latter has three or more.

*D. Hildebrandtii* was discovered by Hildebrandt at Kitui, in British East Africa, and it was afterwards collected in Usambara by Holst. The plant here figured flowered in the Water Lily House at Kew in October, 1903, and it was still in full bloom in June of the present year.

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*Descr.*—A much-branched shrub, about three feet high. *Stems* quadrangular, green and glandular when young, pale brown and glabrous in age. *Leaves* ovate-lanceolate, obtuse, shortly attenuate at the base, pubescent on both surfaces, an inch and a half long, nine lines wide; petioles two to four lines long. *Cymes* axillary, shortly pedunculate, few-flowered. *Calyx* six lines long, five-lobed half-way down, glandular outside, clothed with simple adpressed hairs inside; segments linear-lanceolate, long-acuminate. *Corolla* lilac with violet streaks in the throat and on the lower lip; upper lip with two oblong, obtuse lobes three lines long and a line and a half wide; lower lip with three oblong-spathulate, obtuse lobes five lines long and two lines wide. *Lower filaments* a little longer than the upper, and united to them for a little distance above their insertion; anthers oblong, obtuse, one line long, dorsifixed near the base. *Ovary* oblong, a line and a quarter long, glabrous; style filiform.—*C. H. Wright.*

Fig. 1, calyx and pistil; 2, corolla laid open; 3 and 4, anthers; 5, longitudinal section of ovary; 6, stigma:—*all enlarged.*

M.S. del. J.N.Fitch lith.

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## Tab. 7974. = Plate following

# DENDROBIUM Williamsoni.

*Native of North-eastern India.*

---

Nat. Ord. Orchidaceæ.—Tribe Epidendreæ.

Genus Dendrobium, *Swartz*; (*Benth. et Hook. f. Gen. Plant.* vol. iii. p. 498.)

---

Dendrobium (§ Formosæ—Nigro-hirsutæ) *Williamsoni*; caulibus erectis crassiusculis 6–12 poll. altis polyphyllis foliisque primum nigro-hirsutis, foliis oblongo-lanceolatis 3–4 poll. longis apice oblique bidentatis flores excedentibus, pedunculis subterminalibus sæpius bifloris, floribus 2½–3 poll. diametro eburneis labelli lobis lateralibus splendide aurantiacis, sepalis petalisque similibus lanceolatis acutis, labelli barbellati lobis rotundatis ciliatis lateralibus minoribus erecto-incurvis terminali recurvo, anthera basi antica puberula, columnæ pede plano.

D. Williamsoni, *Day & Reichb. f. in Gard. Chron.* 1869, p. 78. *Hook. f. Fl. Brit. Ind.* vol. v. p 721. *King & Pantling in Ann. Bot. Gard. Calc.* vol. v. p. 6, t. 9. *Day Drawings in Bibl. Kew.*, vol. xiii. n. 77.

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*Dendrobium Williamsoni* has an interesting history. It was discovered in Assam by Mr. W. J. Williamson, a nephew of the late Mr. W. Day, to whom he sent a living plant in 1868. It flowered in the latter gentleman's notable collection in 1869, and it was described by the late Dr. Reichenbach in the place cited above. We are unable to trace its course of distribution under cultivation, but it is on record that it flowered in the Calcutta Botanic Garden in 1879. In March, 1887, an unnamed plant flowered at Kew, and Mr. R. A. Rolfe identified it with *Dendrobium Williamsoni* from Reichenbach's description; but the type being locked up at Vienna, absolute certainty was unattainable. In 1902, Mrs. Wolstenholme, sister of the late W. Day, presented that gentleman's most valuable collection of some thousands of drawings of cultivated orchids, and Mr. Rolfe's identification of the plant was confirmed by a drawing of the original *D. Williamsoni*.

It may be added here that Day's drawings include a considerable number of the types of Reichenbach's species founded on cultivated specimens, so that the senseless provisions of his will are, to some extent, nullified.

*D. Williamsoni* flowered again at Kew in 1890, and

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flowers are preserved of this and previous dates in the Herbarium. In March of the present year, Mr. F. W. Burbidge sent flowers of this species to Kew for identification, and as it was flowering at Kew at the same time, the accompanying figure was made from the materials offered by the two establishments.

Nearly six hundred proposed species of *Dendrobium* have been described, and it is estimated that about five hundred of them may be valid. They range from North-west India to Ceylon, China, Japan, the Malayan Archipelago, New Guinea, Australia, New Caledonia, New Zealand and Polynesia, eastward to Tahiti. The full merits of *D. Williamsoni* have probably not yet been brought out, and we can only add that it is very attractive.

Reichenbach compares the present species with his *D. Draconis* (Bot. Zeit. 1862, p. 214; B. M. t. 5459, under the name *eburneum*). Other species of the same affinity are: *D. Lowii*, Lindl. (B. M. t. 5303); *D. infundibulum*, Lindl. (B. M. t. 5446), and *D. Wattii*, Reichb. f. (B. M. t. 6715).

*Descr.*—A caulescent species. *Stems* erect, rather thick, six to twelve inches high, many-leaved, more or less clothed, as well as the leaves, with black hairs. *Leaves* oblong-lanceolate, three to four inches long, obliquely two-toothed at the tip, slightly overtopping the flowers. *Peduncles* from the upper joints, usually two-flowered. *Flowers* two inches and a half to three inches across, ivory-white, or with a more decided tinge of yellow, and a zone of bright orange-red on the lateral lobes of the lip. *Sepals* and *petals* similar, lanceolate, acute. *Lip* bearded; lobes rounded, fringed, lateral smaller, erect, involute, terminal recurved. *Anther* hairy in front at the base. *Column* not hollowed in front.—*W. B. H.*

Fig. 1, lip; 2, column and spur; 3, anther; 4 and 5, pollinia:—*all enlarged.*

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# Tab. 7975.

## PYRUS Niedzwetzkyana.

*Native of Central Asia.*

---

Nat. Ord. Rosaceæ.—Tribe Pomeæ.

Genus Pyrus, *Linn.*; (*Benth. et Hook. f. Gen. Plant.* vol. i. p. 626.)

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Pyrus *Niedzwetzkyana*; arbor parva (specimen in horto Kewensi cultum jam 12–14 ped. altum), ramulis floriferis rigidis rectis crassiusculis cortice glabro atro-purpureo, foliis longe graciliterque petiolatis in ramis fructiferis subcoriaceis rigidis glabrescentibus demum rubescentibus lanceolatis oblanceolatis vel oblongis absque petiolo 3–5 poll. longis crenato-serrulatis sæpius breviter acuminatis subtus pallidioribus secus costam sæpe etiam puberulis, petiolo usque ad 2 poll. longo venisque nitido-roseis puberulis, floribus roseo-purpureis 1½–1¾ poll. diametro numerosissimis in ramis lateralibus brevissimis fasciculatis, pedunculis gracilibus 6–9 lin. longis, calycis albo-lanati lobis lanceolatis acutis demum recurvis 2½–3 lin. longis, petalis obovatis circiter 9 lin. longis, staminibus stylos glabros excedentibus, fructu pendulo conoideo 1¾–2 poll. longo extus sanguineo-purpureo intus per totam carnem roseo-purpureo.

Pyrus Niedzwetzkyana, *Hemsl.*

Malus Medwietzkyana, *Dieck. Neuheiten Offerte des Nat. Arb. Zöschen*, 1891, p. 16. *Gard. Chron.* 1891, vol. i. p. 461. *Wiener Illustr. Gartenz.* 1891, p. 164.

Malus Niedzwetzkyana, *Dieck, diar. cit.* 1892, p. 18. *Koehne, Dendrologie*, 1893, p. 259.

Pyrus malus, *Durand & Jackson, Index Kewensis Suppl.* i. p. 262.

---

This remarkably distinct apple is an instance in which it seems better, for practical purposes, to avoid the theoretical species, and publish it under the single name it goes by in cultivation. It might be argued that it is only a variety of *Pyrus Malus*, Linn., but we do not propose discussing that question here. It certainly is a most striking object, whether in flower or in fruit.

As to the spelling of the distinctive name, we have adopted the one used by the author in his second account of the plant, where, however, he gives no explanation of the deviation from the first. In each case he states that he names it after his patron, who collected it wild in the Ili District, South-west Siberia. Mr. Dieck further states that this apple is widely spread in Western and Central Asia, both in a wild state and cultivated, and he believes it is the same as a common wild apple of the

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Caucasus, which is highly prized for its fruit by the Swabian colonists. He received it from Kashgar and the Plateau of Talgar, and the European stock appears to have been raised from seed of cultivated trees in the former locality, where it is called "Kisil alma," or red apple. With the exception of the leaves all parts of this apple are red—bark, wood, flowers and fruit, and the leaves turn red in autumn. Even the flesh of the nice-tasting fruit is of a deep, rosy red.

*Pyrus Niedzwetzkyana* is hardy at Kew, where it flowered profusely last spring, and is just ripening fruit at the time of writing this. The fruit actually represented in the plate is from a drawing made by Mr. George Massee, of a very fine fruiting specimen sent to Kew from Bitton, in August, 1901, by Canon Ellacombe.

*Descr.*—A small, free-growing tree. *Flowering-branches* long, straight, stiff, rather thick; bark smooth, very dark purple. *Leaves* on long, slender petioles, on the fruiting branches rather thick, stiff, nearly glabrous, tinged red, lanceolate, oblanceolate or oblong, three to five inches long without the petiole, finely crenately-toothed, shortly acuminate, slightly hairy along the midrib; petiole one to two inches long, bright red as well as the midrib, slightly hairy. *Flowers* deep rose-purple, an inch and a half to an inch and three-quarters across, very numerous, clustered at the ends of very short, lateral branchlets; stalks slender, six to nine lines long. *Calyx* woolly, white; lobes lanceolate, acute, about a quarter of an inch long. *Petals* obovate. *Stamens* longer than the smooth styles. *Fruit* pendulous, conical, one inch and three-quarters to two inches long, skin crimson-purple, flesh rose-purple throughout.—*W. B. H.*

---

Fig. 1, section of a flower; 2 and 3, stamens:—*all enlarged*; 4, fruit:—*natural size.*

M.S. del. J.N. Fitch lith.

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# TAB. 7976.

# MORÆA THOMSONI.

*Native of Eastern Tropical Africa.*

---

Nat. Ord. IRIDACEÆ.—Tribe MORÆEÆ.

Genus MORÆA, *Linn.*; (*Benth. et Hook. f. Gen. Plant.* vol. iii. p. 688.)

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MORÆA *Thomsoni*; herba rigida *Junci* habitu, caule erecto usque ad 1 ped. alto, foliis teretibus glabris 6-sulcatis 4–7 poll. longis superioribus gradatim reductis, fasciculis florum spicatim dispositis, spathis 2 ovato-lanceolatis acuminatis rubro-brunneis 2-floris 1–1½ poll. longis, floribus 1¾–2 poll. diam., perianthii segmentis pallide lilacinis intus basi luteis brunneo-maculatis costis intus violaceis extus rubro-brunneis notatis exterioribus ovatis acuminatis e basi angusta lanceolatis acuminatis interioribus quam exterioribus minoribus, antheris oblongis basi sagittatis connectivo apice breviter producto, styli ramis triangularibus obtusis emarginatis undulatis, ovario oblongo, capsulis circiter 4 lin. longis castaneis.

Moræa Thomsoni, *Baker, Handb. Irideæ,* p. 57, *et in Dyer, Fl. Trop. Afr.* vol. vii. p. 341.

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This plant, which flowered in the Cape House at Kew in July, 1903, was raised from seeds sent by Mr. J. McClounie, Head of the Scientific Department, Zomba, British Central Africa, who collected them on the Nyika Plateau. It has also been found by Mr. Alexander Whyte at an altitude of 4000-6000 ft. on Mount Malosa, in Nyasaland; but it was originally described from a specimen discovered by the late Mr. Joseph Thomson, F.R.G.S., on the higher plateau in German East Africa, north of Lake Nyasa.

The genus *Moræa*, consisting of about sixty species, has its headquarters in South Africa, while sixteen species occur in Tropical Africa, and one, *M. Robinsoniana*, F. Muell. (B. M. t. 7212) inhabits Lord Howe Island.

During the early part of the last century, when Cape plants were largely imported, many species of *Moræa* were introduced with them, and were figured in the publications of that day. A reference to these figures (B. M. tabs. 168, 613, 712, 750, 759, 771, 1012, 1276, 5438) will show that many are of great beauty, but the fugacious nature of the flowers, as in many other *Iridaceæ*, has prevented them from becoming general favourites.

SEPTEMBER 1ST, 1904.

*Descr.*—A rigid herb of rush-like habit. *Stem* erect, reaching a height of one foot. *Leaves* terete, glabrous, six-furrowed, the lowest about seven inches long, gradually becoming shorter upwards. *Flowers* in fascicles spicately arranged, about an inch and three-quarters in diameter. *Spathes* two to each fascicle, ovate-lanceolate, acuminate, reddish-brown, an inch to an inch and a half long. *Perianth*-segments pale lilac, the base inside yellow, spotted with brown; midrib of each segment darker lilac inside, reddish-brown outside; outer segments ovate from a narrow base, acuminate; inner smaller than the outer, lanceolate, acuminate. *Anthers* oblong, sagittate at the base; connective shortly produced at the apex. *Ovary* oblong; style-arms triangular, obtuse, emarginate, undulate. *Capsule* four lines long, chestnut-colour.—*W. B. H.*

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Fig. 1, portion of leaf showing cross section; 2, an outer perianth-segment; 3, stamens and style-arms; 4, anther, front view; 5, anther, back view:—*all enlarged.*

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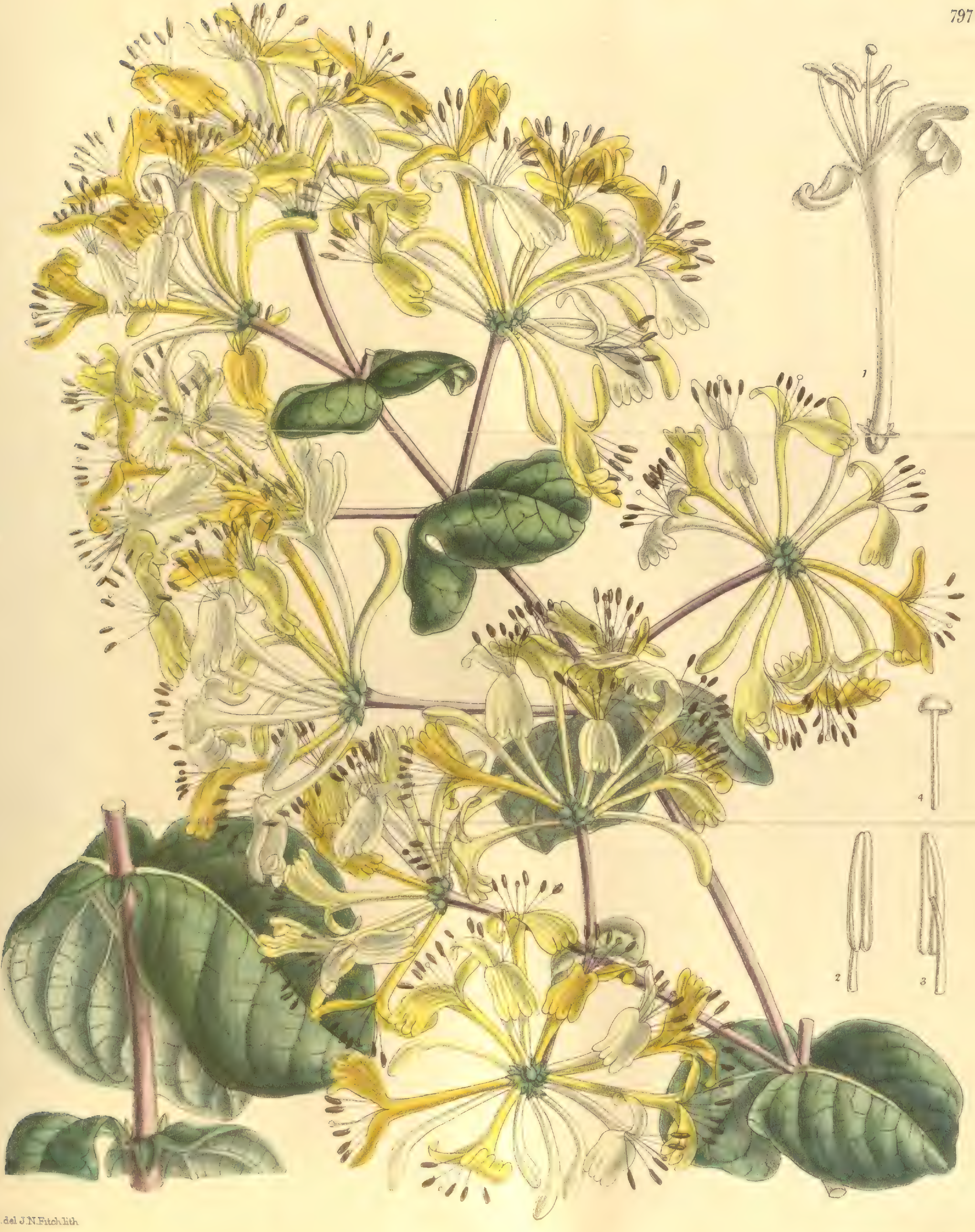

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## Tab. 7977.

# LONICERA ETRUSCA var. SUPERBA.

*Native of the Mediterranean region.*

---

Nat. Ord. Caprifoliaceæ.—Tribe Lonicereæ.

Genus Lonicera, *Linn.*; (*Benth. et Hook. f. Gen. Plant.* vol. ii. p. 5.)

---

Lonicera *etrusca;* frutex alte scandens, ramosissimus, caulibus glabris primum purpureis teretibus, foliis obovatis vel supremis fere orbicularibus 2½ poll. longis 2 poll. latis integris supra et ad nervos subtus sparse pubescentibus superioribus basi connatis, capitulis florum sæpius ternis terminalibus circa 12-floris, floribus binis involucro quadrilobo cinctis, calyce viridi 1 lin. longi lobis deltoideis acutis, corolla primum straminea demum aurantiaca, tubo 1 poll. longo tubuloso-infundibuliformi, labio postico 5 lin. longo 4 lin. lato ad quartam partem in lobos 4 ovatos imbricatos diviso, labio antico oblongo 7 lin. longo 1½ lin. lato, staminibus longe exsertis, stylo filiformi, baccis rubris.

L. etrusca, *Santi, Viagg. al Montiam.* vol. i. p. 113, tab. 1 (1795); *Savi. Fl. Pis.* vol. i. (1798) p. 236; *DC. Prodr.* vol. iv. p. 331; *Reichb. Ic. Fl. Germ.* vol. xvii. tab. 1172; *Willk. & Lange, Prodr. Fl. Hisp.* vol. ii. p. 332; *Boiss. Fl. Orient.* vol. iii. p. 5; *Nym. Consp. Fl. Eur.* ed. 2, p. 321; *W. Watson in Gard. Chron.* 1903, vol. ii. p. 281; *Rehder in Rep. Missouri Bot. Gard.* vol. xiv. (1903), p. 194.

L. hetrusca, *Host, Fl. Austr.* vol. i. p. 298; *Bub. Fl. Pyren.* vol. ii. p. 335.

L. gigantea, *Hort. ex Carrière in Rev. Hort.* 1882, p. 558; var. superba, *Hort. ex W. Watson, in Gard. Chron.* 1903, vol. ii. p. 281.

L. Charlotti, *Hort. ex Watson*, l.c.

Caprifolium Periclymenum, *Gouan, Hort. Monsp.* p. 101 (1768), *non Linn.*

C. etruscum, *Roem. & Schult., Syst. Veg.* vol. v. p. 261.

C. dimorphum, *O. Kuntze, Rev. Gen. Pl.* vol. i. p. 274.

---

Amongst about a dozen species of *Lonicera* figured in this work, the present one most nearly resembles the North American *L. flava*, Sims (t. 1318), which differs in having solitary flower-heads and a shorter, less slender, corolla-tube. Rehder's monograph (*loc. sup. cit.*) contains about 150 well-marked species belonging to this genus, grouped in two subgenera, viz.:—*Chamæcerasus*, having two-flowered, axillary cymes and leaves never united at the base, and *Periclymenum*, having terminal, usually three-flowered cymes collected into whorls or spikes and at least the upper leaves connate by their bases.

*L. etrusca*, which belongs to the latter of these subgenera, was mentioned by Gouan (under the name of

October 1st, 1904.

*Caprifolium Periclymenum*) as growing in the garden at Montpellier in 1762. In 1795 Santi described it as a distinct species from specimens he saw when on a tour in Tuscany. Since then it has been observed at various stations on all sides of the Mediterranean and extending westwards to Madeira and eastwards to Kurdistan. Extending over so wide a range, it naturally presents varieties, eight such, founded chiefly on the size of the leaves and the nature or absence of their indumentum, being enumerated by Rehder.

The specimen here figured flowered in the Himalayan section of the Temperate House at Kew in August, 1903. The plant was purchased from a continental nurseryman about ten years previously. The conditions in this situation are eminently favourable for it, and its stem has attained a diameter of two inches, and its shoots grow from six to ten feet in length in a season. These shoots bear, for a distance of several feet from the apex, numerous short lateral branches terminated by the clusters of flowers, and, hanging down from the rafters, present the appearance of a graceful cloud of colour. In the open air the plant also thrives, but does not flower so freely as indoors. It is easily propagated from cuttings.

*Descr.*—A lofty, much-branched climber. *Stem* terete, glabrous; branches purple plum-colour when young. *Leaves* obovate or the upper almost orbicular, at least the upper pair joined at the base, sparingly pubescent above and on the chief nerves beneath, pale green, about two inches and a half long and two inches wide. *Flowers* in usually ternate heads terminal on the branches, each head about twelve-flowered, borne on a peduncle about one inch long, each pair of flowers surrounded by a four-lobed involucre, shorter than the calyx. *Calyx* green, one line long; teeth deltoid, acute. *Corolla* at first creamy-yellow, finally almost orange; tube one inch long, tubular funnel-shaped; upper lip five lines long, four lines wide, divided about a quarter of the way down into four ovate imbricate lobes; lower lip oblong, seven lines long, a line and a half wide. *Stamens* much exserted. *Style* filiform. *Berries* red, not united.—*C. H. Wright.*

---

Fig. 1, flower; 2 and 3, anthers; 4, stigma:—*all enlarged.*

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# TAB. 7978.

## MUCUNA SEMPERVIRENS.

*Native of China.*

---

Nat. Ord. LEGUMINOSÆ.—Subord. PAPILIONACEÆ.

Genus MUCUNA, *Adans.*; (*Benth. et Hook. f. Gen. Plant.* vol. i. p. 533.)

---

MUCUNA *sempervirens;* frutex alte scandens vel vagans, caule primario basi interdum 1 ped. diametro (planta in horto kewensi culta fere 100-pedalis) ramulis ultimis volubilibus, foliis trifoliolatis longe petiolatis cum petiolo gracili 9–12 poll. longis floribusque primum pilis urentibus vestitis cito glabrescentibus, foliolis petiolatis coriaceis nitidis atroviridibus ovato-oblongis lateralibus obliquis, omnibus acuminatissimis integerrimis 3–5 poll. longis, floribus atropurpureis crassis carnosis circiter $2\frac{1}{2}$ poll. longis racemosis, racemis densis sæpius in ramis vetustioribus fasciculatis interdum in ramis junioribus productis, pedicellis quam floribus multo brevioribus, calycis subhemisphærici tubo lato dorso gibboso limbo bilabiato labio superiore brevissime bidentato labio inferiore trilobato lobis deltoideis acuminatis, petalis fere coriaceis, vexillo erecto cordiformi concavo basi dorso inflexo apice recurvo, alis horizontalibus oblique oblongo-spathulatis intus concavis marginibus superioribus divergentibus, carina alas excedente genitalia includente rostrata spinuloso-acuminata, staminibus glabris vexillari libero divergente, antheris biformibus alternis versatilibus barbatis cito deciduis, ovario styloque pubescentibus, stylo stamina paullo superante, ovulis numerosis, legumine lignoso circiter pedali $1\frac{1}{2}$ poll. lato inter semina sæpe constricto puberulo suturis incrassatis, seminibus compressis oblongo-rotundatis vel reniformibus 9–15 lin. longis hilo veluntino ad $\frac{5}{8}$ circumdatis.

M. sempervirens, *Hemsl. in Journ. Linn. Soc. Bot.* vol. xxiii. p. 190; *Garden & Forest,* vol. ii. (1889), p. 266; *Raffill in Gard. Chron.* 1904, vol. i. p. 282.

---

*Mucuna* is the Brazilian name of *M. pruriens*, DC., and perhaps of other species, the pods and other parts of which are clothed with stinging-hairs, which are used, under the name of cowhage or cow-itch, as a mechanical anthelmintic. It is almost impossible to handle either fresh or herbarium specimens without suffering from the stings of these extremely insinuating hairs. Those of *M. sempervirens* are mostly shed at an early stage of the development of the parts.

The plant figured in the Magazine (t. 4945) as *M. prurita*, Hook. (*M. pruriens*, DC.), is not the true plant, but *M. imbricata*, DC., a native of India. *M. pruriens* is figured, though not well, in the "Botanical Register," vol.

OCTOBER 1ST, 1904.

xxiv. t. 18, and in Bentley and Trimen's "Medicinal Plants," t. 78.

*M. sempervirens* was originally described from a dried specimen sent to Kew, from Ichang, by Dr. A. Henry, in 1886. The material consisted of foliage, ripe pods and quite young flower-buds. The same year Dr. Henry sent seed direct to the Gardens, and one of the plants raised was set in a bed in the Temperate House, where it has grown to the dimensions given in the description. It flowered for the first time in August, 1903. Two large clusters of flowers were produced on one of the old stems, about forty feet from the ground, and one smaller one on a thin branch about two years old. This year none has appeared, but the foliage is ornamental and effective. The plant is growing at the south end of the central building of the Temperate House.

In 1895, Mr. E. Ludlow, of "The Firs," Wimbledon, sent seeds of *M. sempervirens* to Kew. He was Commissioner of Imperial Customs at Ichang in 1892-3, and had actually seen the large specimen from which Dr. Henry obtained his specimens, and in his notes accompanying the specimen he states that it is traditionally an introduced plant there. This may be so, but we have the authority of Dr. Henry that this species is wild in many parts of the surrounding mountains.

Supplementary to my original description of *M. sempervirens*, I mentioned that Kew possessed flowers of a *Mucuna* from Ningpo, which I supposed might be the same species, and it now proves to be the same. It was collected by Mr. C. W. Everard, of the British Consular Service, and presented to Kew, with many other plants, by the Rev. T. A. Preston. The Rev. E. Faber also collected it in the Province of Kweichau, about the year 1887.

*Descr.*—A very tall, climbing or rambling, evergreen shrub, the young parts more or less clothed with stinging hairs. *Stem* sometimes a foot in diameter at the base; ultimate branchlets slender and twining. *Leaves* trifoliolate, including the slender petiole nine to twelve inches long. *Leaflets* petiolulate, coriaceous, shining above, ovate-oblong, lateral oblique, all tapering to a fine point, three to five inches long. *Flowers* dark purple outside, lighter within, and shading off to white at the base of the petals,* thick, fleshy, about two inches and a half long. *Racemes* dense, six to nine inches long, mostly produced from the old stems. *Pedicels* shorter than the flowers. *Calyx* broadly campanulate, somewhat two-lipped; tube gibbous above; upper lip very shortly bidentate; lower distinctly tridentate. *Standard* erect, cordate, shorter than the other petals; wings horizontal, oblong-spathulate; keel narrow, exceeding the wings, beaked, closed over the stamens and pistil. *Stamens* glabrous, the upper one free; alternate anthers versatile, bearded, caducous. *Pod* woody, about a foot long and an inch and a half broad, often constricted between the seeds. *Seeds* purple-brown, flattened, reniform, three-quarters to an inch long.—*W. B. H.*

Fig. 1, calyx and pistil:—*enlarged.*

---

* Dr. Henry describes the flowers of the wild plant as flesh-coloured, and states that they are much visited by bees and other insects.

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## TAB. 7979.

# LOROPETALUM CHINENSE.

*Native of India and China.*

---

Nat. Ord. HAMAMELIDACEÆ.

Genus LOROPETALUM, *R. Br.*; (*Benth. et Hook. f. Gen. Plant.* vol. i. p. 668.)

---

LOROPETALUM *chinense;* frutex usque ad 8–10 ped. altus, dum juvenis copiose florens, dense ramosus, ramis gracilibus foliisque primum stellato-pubescentibus, foliis alternis breviter petiolatis subcoriaceis persistentibus ovato-lanceolatis 1–2 poll. longis (in speciminibus silvestribus sæpius multo minoribus circumscriptione variabilibus) basi leviter obliquis apiculato-acutis ciliolatis, stipulis parvis cito deciduis, floribus candidis viridi-albis vel pallide luteis circiter 1 poll. diametro in ramulis brevibus fasciculatis subsessilibus, calycis dense pubescentis lobis 4 brevibus ovatis obtusis, petalis 4 linearibus 9–12 lin. longis, staminibus 4 cum glandulis totidem alternantibus filamentis brevissimis connectivo apice rostrato, ovario 2-loculari loculis uniovulatis stylis brevissimis, capsula lignosa dense pubescente semisupera subglobosa loculicide bivalva, seminibus oblongis circiter 2 lin. longis albis lævibus.

L. chinense, *R. Br. in Abel's Narrative of a Journey in China* (1818), p. 375, in nota. *D. Oliver in Trans. Linn. Soc.* vol. xxiii. p. 459. *Hemsl. in Journ. Linn. Soc. Bot.* vol. xxiii. p. 290. *N. E. Brown in Gard. Chron.* 1880, vol. ii. p. 620; 1883, vol. i. p. 152, f. 23; 1894, vol. i. p. 342, f. 42. *The Garden*, vol. lxv. p. 255, cum figura. *Journ. of Hortic.*, series 3, vol. xviii. p. 235, f. 39. *De Wildem. Ic. Hort. Then.* vol. ii. t. 58.

Hamamelis chinensis, *R. Br. loc. sup. cit.*, cum icone nigra.

---

Robert Brown published this shrub as a species of *Hamamelis*, but at the same time he pointed out in a note some essential differences, and suggested that it might be raised to generic rank, under the name of *Loropetalum*. This was adopted by Prof. D. Oliver in the place cited above, and he subsequently (1883) reduced (*Hook. Ic. Pl.* t. 1417) Bentham's *Tetrathyrium subcordatum*, published in 1861, to the same genus.

Both are natives of China, and *Loropetalum chinense* is common, ranging from Formosa, Chekiang and Kwangtung to Hupeh and Yunnan, and extending to the Khasia Hills in Eastern India. It was introduced into this country, in 1880, by the late Mr. Maries for Messrs. James Veitch & Sons. In 1894 this firm was awarded a First Class Certificate for it; yet its merits were not at once recognized. It is quite hardy, and autumn is the flowering-time usually given, but we believe, that like the species of *Hamamelis*, and some other members of the order, its natural time is late winter or early spring, when its flowers are liable to be destroyed by frost. But it is very attractive when it escapes the cold, and it bears mild forcing quite well, flowering freely as a small plant in pots. It was very ornamental in this state, in the Temperate House at Kew last February, when our drawing was made, and it certainly deserves to become more widely known.

The Hamamelidaceæ are a comparatively small family, but they are pretty fully illustrated in this Magazine, the present subject being the twelfth. The N. American *Fothergilla alnifolia*, Linn. (t. 1342) is the first, and perhaps the least attractive. *Rhodoleia Championi*, Hook. (t. 4509) is the second, and it is the most showy member of the order.

The others figured are:—*Corylopsis spicata*, Sieb. & Zucc. (t. 5458); *C. himalayana*, Griff. (t. 6779); *C. pauciflora*, Sieb. & Zucc. (t. 7736); *Hamamelis japonica*, Sieb. & Zucc. (t. 6659); *H. virginiana*, Linn. (t. 6684); *H. mollis*, Oliv. (t. 7884); *Parrotia persica*, C. A. Mey. (t. 5744); *P. Jacquemontiana*, Decne (t. 7501), and *Trichocladus grandiflorus*, Oliver (t. 7418). The last is a native of South Africa, and the only one of them from the southern hemisphere, and it has a very strong family likeness to our plant.

Some members of this order are more valuable for the brilliant tints of their foliage in autumn than they are for their flowers, *Liquidambar styraciflua* and *Parrotia persica* being especially noteworthy in this respect. The former closely resembles a small-leaved maple, but it may be recognized by its alternate leaves.

*Descr.*—A densely branched shrub, reaching eight to ten feet in height, but flowering profusely while still quite small. *Branches* slender, more or less clothed, as well as the leaves, with a stellate pubescence. *Leaves* alternate, shortly stalked, somewhat leathery, persistent, ovate-lanceolate, one to two inches long, slightly oblique at the base, tapering to a fine point, minutely fringed on the margin; stipules small, falling early. *Flowers* pure white, greenish-white or very pale yellow, about one inch in diameter, in clusters of about four at the ends of short branchlets. *Calyx* small, densely hairy, shortly four-lobed. *Petals* four, very narrow, nine to twelve lines long. *Stamens* four, alternating with as many glands; filaments very short; anthers beaked. *Capsule* nearly globose, very hairy, two-celled, with a solitary seed in each cell.—*W. B. H.*

---

Fig. 1, a leaf-node and stipules; 2, portion of under surface of leaf; 3, a flower beginning to unfold; 4, the same from which calyx-lobes and petals have been removed; 5, a longitudinal section of the ovary; 6, a cluster of fruits; 7, a seed:—*all enlarged.*

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## Tab. 7980.

# x. ZYGOCOLAX VEITCHII.

*Native of Brazil.*

---

Nat. Ord. Orchidaceæ.—Tribe Vandeæ.

Zygocolax, *Rolfe, genus inter* Zygopetalum ♀ *et* Colacem ♂ *hybridum, Gard. Chron.* 1887, vol. i. p. 765.)

---

Zygocolax *Veitchii;* pseudobulbis ovoideis compressis, foliis 2 vel 3 floribus coetaneis anguste lanceolatis circiter pedalibus acutis 7-costatis recurvis inferioribus brevioribus latioribus, scapis basilaribus erectis quam foliis brevioribus 3–5-floris, bracteis amplis ovarium involventibus, floribus 2½–3 poll. diametro, sepalis petalisque similibus spathulatis concoloribus intus viridi-luteis brunneo-purpureo-maculatis, labello suborbiculari albido longitudinaliter rubro-violaceo-striato, polliniis 4 stipitatis ovoideis per paria in loculis segregatis.

Zygocolax Veitchii, *Rolfe in Gard. Chron.* 1887, vol. i. p. 765; *Journ. Linn. Soc. Bot.* vol. xxiv. p. 170, t. 4; *Orch. Rev.* vol. xii. 1904, p. 93. *Veitch, Manual Orch. Pl.* vol. ix. pp. 66, 67, *cum icone ex Journ. Linn. Soc. iterata*; vol. x. p. 94.

Zygopetalum Veitchii, *Gard. Chron.* 1887, vol. i. p. 426.

Zygocolax Veitchii, var. Kromeri, *Gard. Chron.* 1900, vol. ii. p. 346. *Orch. Rev.* vol. viii. p. 371.

Zygolax Veitchii, *Hansen, The Orchid Hybrids*, p. 244.

---

Hybrid orchids of reputed bigeneric origin are now not uncommon. The first raised artificially, according to Veitch's valuable work, cited above, was *Phaiocalanthe irrorata*, Rolfe, a cross effected by Dominy, the celebrated orchid-grower of the firm named, between *Phajus grandifolius*, Lour. (*Bletia Tankervilliæ*, R. Br.—B. M. t. 1924) and *Calanthe vestita*, Lindl. (B. M. t. 4671). It was originally described by Reichenbach (*Gard. Chron.* 1867, p. 264, with a figure) under the name of *Phaius irroratus*, and a coloured figure of it appeared in the "Floral Magazine," vol. viii. (1869), t. 426. This was a highly interesting achievement, both of the parents having long been in cultivation, and the former was one of the earliest of exotic orchids successfully cultivated in England. A fine coloured figure of it appeared in Aiton's "Hortus Kewensis" (ed. 1, 1789, vol. iii. p. 302, t. 12) under the name of *Limodorum Tankervilliæ*, Dryander.

For many reasons, *Zygocolax Veitchii*, Rolfe, deserves our attention and admiration. Messrs. Veitch (*Man. Orch. Pl.*

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vol. ix. p. 67) say: "This hybrid, whether in its botanical or horticultural aspect, is one of the most interesting we have yet raised."

It was the result of a cross effected by Seden, the worthy successor of Dominy, between *Colax jugosus*, Lindl. (B. M. t. 5661) and *Zygopetalum crinitum*, Lodd. (B. M. t. 3402), respectively the male and female parents of the hybrid. The seed was sown in September, 1882, and the first flowers were produced in March, 1887. Truly the gardener has to wait for the flowers of his labour!

*Zygocolax Veitchii* is also noteworthy as having been the principal subject of Mr. R. A. Rolfe's excellent articles on a uniform plan of naming bigeneric hybrid orchids, to which references are given above. He followed Dr. M. T. Masters * in combining elements of the names of the two genera concerned, and this has now become almost universal in practice.

Another point of special interest and importance in the plant figured, is that it is of natural origin, having been imported direct from Brazil by Mr. Kromer, Roraima Nursery, Croydon, as we are informed by Mr. Young, gardener to Sir Frederick Wigan, Bart., in whose garden at East Sheen the plant in question flowered in February of the present year. But, as Mr. Rolfe has pointed out, it does not differ from the original *Z. Veitchii*, and therefore deserves no distinctive name.

Comparing the flowers of the reputed parents, as represented in our illustration, with those of *Zygocolax Veitchii*, one might be sceptical of the hybrid origin, for it seems to be nearly all *Zygopetalum*; but we refer readers desirous of fuller details to the publications cited above.

*Descr.*—An epiphytal herb. *Bulbs* ovoid, flattened. *Leaves* two or three on each bulb, appearing at the same time as the flowers, lanceolate, about a foot long, seven-ribbed, recurved, sharp-pointed, lower ones shorter and broader than the others. *Scapes* solitary from below the bulbs, erect, shorter than the leaves, three- to five-flowered. *Bracts* large, enfolding the flower-stalk. *Flowers* two inches and a half to three inches across. *Sepals* and

---

* *Philageria*, a hybrid between *Lapageria* and *Philesia*, in the "Gardeners' Chronicle," 1872, p. 358, figs. 119, 120.

*petals* similar in shape and colour, greenish-yellow, on the upper surface blotched with a rich purple brown. *Lip* nearly circular, ground yellowish-white, longitudinally striped with red-violet.—*W. B. H.*

---

Fig. 1, column of *Zygocolax Veitchii;* 2 and 3, front and back views of the pollinia of the same; 4, a flower of *Zygopetalum crinitum*, female parent, from Warner and Williams's "Orchid Album," vol. ix. t. 410; 5, a flower of *Colax jugosus*, male parent, from B. M. t. 5661 :—*figures* 1–3 *enlarged.*

## SUPPLEMENTARY NOTES.

Tab. 7972. *Rosa gigantea:*—We are told that the record in the "Gardeners' Chronicle" of this rose having flowered in Mr. F. Cant's nursery was based on a mistake, so that the first flowering in this country was at Albury Park, as set forth in the Magazine for September. Messrs. F. Cant & Co., of Colchester, were written to on this point, but no reply has been received. The first flowering in Europe, we believe, was at Cannes. Sir Thomas Hanbury, writing to Sir William Thiselton-Dyer, says: "I send you herewith a dried specimen of *Rosa gigantea*, picked in the garden of the Villa Eléonore, at Cannes, where it grows against the house of Lord Brougham and Vaux, the owner. He has it in a box measuring, perhaps, 2½ by 1½ by 1½ feet." This communication is dated May 11th, 1898. In a previous letter he had mentioned that it was in full flower; but we went too far, perhaps, in saying that it flowers profusely on the Riviera. There is also a cultivated flowering specimen in the Kew Herbarium (received through Mr. G. Nicholson in December, 1899), from Mr. R. Armstrong, Claremont, Cape Town.

Tab. 7973. *Dyschoriste Hildebrandtii:*—This plant was raised at Kew, in 1900, from seed collected in South Rhodesia by Mr. John Mahon, then Government Botanist, Scientific Department, Zomba, British Central Africa, and now of the Imperial Institute, South Kensington.

Tab. 7974. *Dendrobium Williamsoni:*—Mr. W. Day is a misprint for Mr. John Day.

W. B. H.

7981

M.S. del, J.N. Fitch lith.

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# TAB. 7981.

## JASMINUM PRIMULINUM.

*Native of Western China.*

---

Nat. Ord. OLEACEÆ.—Tribe JASMINEÆ.

Genus JASMINUM, *Linn.*; (*Benth. et Hook. f. Gen. Plant.* vol. ii. p. 674.

---

JASMINUM *primulinum;* frutex alte vagans, omnino fere glaber, ramis elongatis angulatis viridibus, foliis trifoliolatis graciliter petiolatis, foliolis subsessilibus oblongo-lanceolatis 1–2 poll. longis integris subcoriaceis supra atroviridibus nitidis apiculatis, floribus in foliorum axillis solitariis vel in ramulis brevibus lateralibus terminalibus luteis 1½–2 poll. diametro, pedunculis vel ramulis bracteis foliaceis integris instructis, calycis lobis lanceolatis acutis puberulis, corollæ lobis sæpius 6 obovato-spathulatis rotundatis interdum duplicatis, staminibus inclusis, stylo in floribus simplicibus exserto, fructu ignoto.

J. primulinum, *Hemsl. in Kew Bulletin,* 1895, p. 109. *Oliv. in Hook. Ic. Pl. t.* 2384. *Journ. Roy. Hort. Soc.* vol. xxviii. p. liii. *Journ. of Hort.* series 3 vol xlvi. p. 295, cum figura nigra. *Gard. Chron.* 1903, vol. i. p. 197, *f.* 83. *Veitch, Catalogue of Novelties,* 1903, p. 5. *Rev. Hort.* 1904, pp. 182–3, *ff.* 72, 73.

---

When I described this species nine years ago from a dried specimen, presented to Kew by Mr. W. Hancock, F.L.S., F.R.G.S., of the Chinese Imperial Customs, I used the following phrase:—“J. nudifloro valde affinis et hujus speciei forsan varietas speciosissima,” and Dr. A. Henry, who subsequently collected it in the same locality, is of the opinion that it is a race of *J. nudiflorum*, Lindl. (B. M. t. 4649). He supplies the following note:—“I found the plant both at Szemao and Mengtze, in the Province of Yunnan; but I am of opinion that it occurs always, in the districts where it has hitherto been found growing, cultivated or as an escape from cultivation. The shrubs were seen in gardens, or more frequently in hedges or amidst other shrubs, in the vicinity of villages, and never were met with in woods or forests. It apparently never set any fruit, as I searched for it assiduously in vain; but propagated itself freely by suckers. Semi-double flowers were often seen, and varied very much in size. Several other species of *Jasminum* were plentiful in the woods and forests of South Yunnan, and these produced fruit freely and never showed any variation in the size of the flowers

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nor any tendency to doubling. There is no reference to *J. primulinum* in the 'Chi-wu-ming,' which is rich in details concerning Yunnan plants." Dr. Henry is led by the foregoing facts to the conclusion that *T. nudiflorum* was long ago introduced into the district from the north, and has become evergreen and larger-flowered under the different climatic conditions.

Whatever its descent, *J. primulinum* is a great acquisition, and should it prove as hardy as the old *J. nudiflorum*, it will doubtless be widely planted. It has withstood sixteen degrees of frost against a north wall in Messrs. James Veitch & Sons' nursery. It also does well as a pot-plant. With regard to its not bearing fruit, the same may be said of *J. nudiflorum*, so far as our knowledge goes. Not one of the numerous wild and cultivated specimens in the Kew Herbarium bears a single fruit.

*J. primulinum* was one of the first plants introduced from China by Mr. E. H. Wilson, for Messrs. Veitch, who received a First Class Certificate for it last April. It has flowered freely at Kew, both indoors and out.

*Descr.*—A rambling, evergreen, glabrous shrub. *Stems* and branches quadrangular, slender, green. *Leaves* trifoliolate, on slender stalks; leaflets almost sessile, rather thick, oblong-lanceolate, one to two inches long, entire, dark green and shining above, paler beneath, apiculate. *Flowers* solitary on axillary peduncles or branchlets furnished with scale-like or leaf-like, simple bracts, primrose-yellow, with a darker eye, one inch and a half to two inches across. *Calyx-lobes* lanceolate, acute, slightly hairy. *Corolla-lobes* usually six, obovate-spathulate, rounded, sometimes duplicated and the inner ones shorter. *Stamens* included. *Style* exserted in the single flowers. *Fruit* unknown.—*W. B. H.*

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Fig. 1, ovary and calyx with one lobe removed:—*enlarged.*

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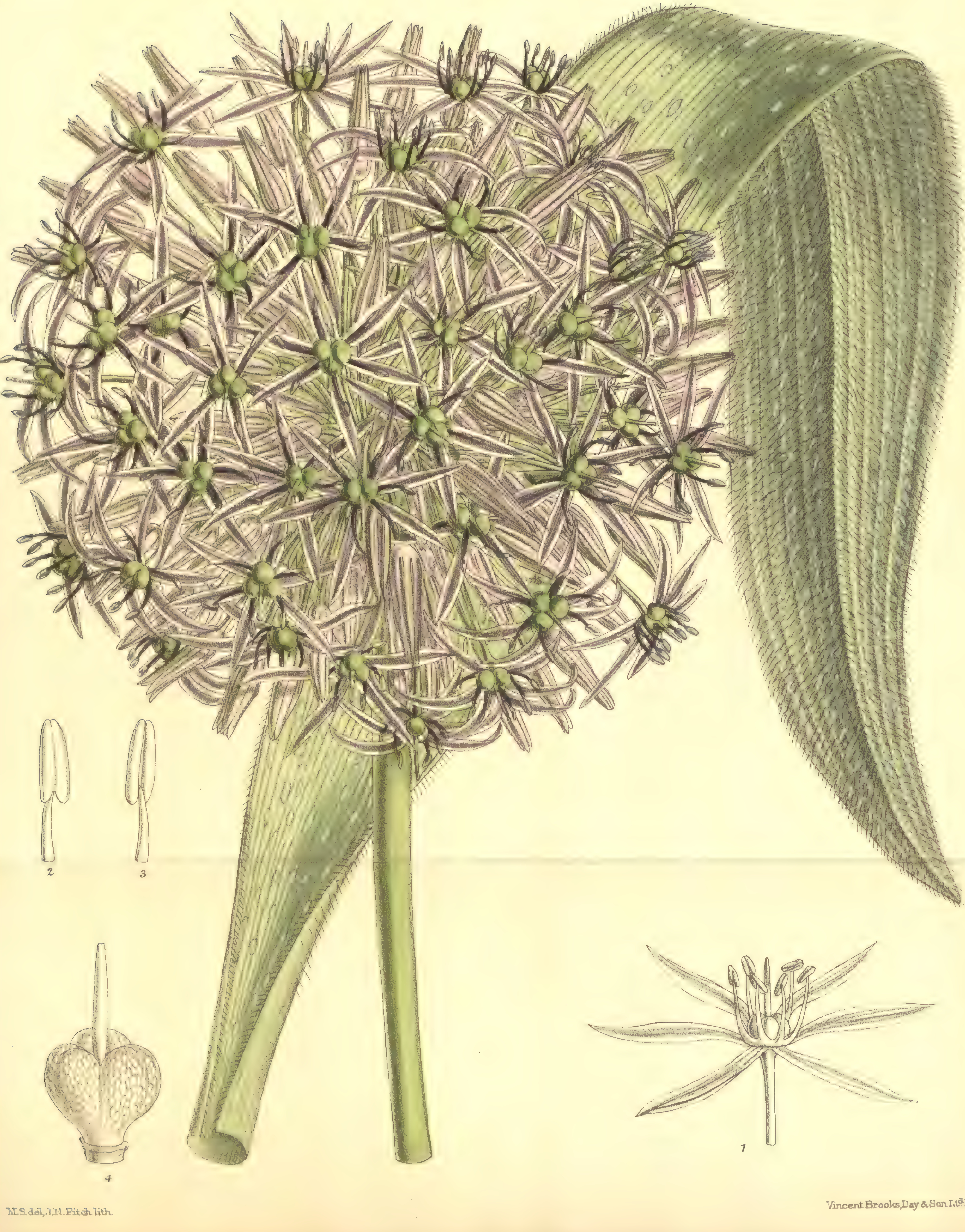

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# TAB. 7982.

# ALLIUM ALBOPILOSUM.

*Native of Southern Turkestan.*

---

Nat. Ord. LILIACEÆ.—Tribe ALLIEÆ.

Genus ALLIUM, *Linn.*; (*Benth. et Hook. f. Gen. Plant.* vol. iii. p. 802.)

---

ALLIUM (Molium) *albopilosum*; herba robusta, bulbo globoso, foliis ligulatis vel lanceolatis acuminatis vel acutis supra glabris subtus albopilosis ad 18 poll. longis et $1\frac{3}{4}$ poll. latis, scapo 1 ped. alto 5 lin. diam. glabro tereti circa 80-floro, spathis 3 latis acuminatis membranaceis, pedicellis 2 poll. longis teretibus glabris, perianthii segmentis linearibus acuminatis obscure lilacinis 10 lin. longis 1 lin. latis post anthesin rigidibus, staminibus uniformibus quam perianthii segmentis dimidio brevioribus, filamentis subulatis basi dilatatis atropurpureis, antheris oblongis, pollinis granis cæsio-viridibus, ovario trilobo minute verrucoso viridi, stylo subulato 3 lin. longo.

S. albopilosum, *C. H. Wright in Gard. Chron.* 1903, vol. ii. p. 34, cum fig.; *Gardening World*, Aug. 29, 1903, cum fig.

---

The genus *Allium* now contains nearly 300 described species, and is remarkable for being one of the few genera in which three primary colours are represented in the flowers. Those of *A. kansuense*, Regel (*Bot. Mag.* t. 7290) and *A. cæruleum*, Pall., are blue; those of *A. flavum*, Linn. (t. 1330), and *A. Moly*, Linn. (t. 499) are yellow, while various shades of red are exhibited by *A. acuminatum*, Hook., *A. narcissiflorum*, Vill. (t. 6182), and other species. Further, not a few are white-flowered.

*A. albopilosum* is the largest flowered species of the genus, being approached only by the closely allied *A. Christophi*, Trautv. (*Incr. Fl. Phæn. Ross*, p. 782) in which the filaments are of a different shape.

This species was collected for Mr. Van Tubergen, Junr., of Haarlem, in 1901, by Mr. Sintenis "in the mountain range which divides Transcaspia from Persia." It flowered in June, 1902, in the garden of the Hon. Charles Ellis, Frensham Hall, Shottermill, and he presented plants to Kew, which flowered in a border in the herbaceous ground in June of last year, and subsequently ripened seeds.

NOVEMBER 1ST, 1904.

Our drawing was made from a plant that flowered at Kew. The delicate, metallic or silky sheen on the flowers is difficult of reproduction.

*Descr.*—A robust herb. *Bulb* globose. *Leaves* strap-shaped or lanceolate, acuminate or acute, the largest eighteen inches long and an inch and three quarters broad, glabrous above, marked with longitudinal lines of white hairs beneath. *Scape* one foot high, about five lines in diameter, terete, glabrous, about eighty-flowered ; spathes three, wide, acuminate, membranous ; pedicels two inches long, terete, glabrous. *Perianth-segments* linear, acuminate, deep lilac with a metallic sheen, ten lines long, one line wide, rigid after flowering. *Stamens* all alike, about half as long as the perianth-segments ; filaments subulate, dilated at the base ; anthers oblong ; pollen greyish-green. *Ovary* three-lobed, minutely verrucose, green ; style subulate, three lines long.—*C. H. Wright.*

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Fig. 1, flower ; 2 and 3, anthers ; 4, ovary :—*all enlarged.*

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M. S. del, J. N. Fitch lith.

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# TAB. 7983.

# HELIPTERUM SPLENDIDUM.

*Native of Western Australia.*

---

Nat. Ord. COMPOSITÆ.—Tribe INULOIDEÆ.

Genus HELIPTERUM, *DC.*; (*Benth. et Hook. f. Gen. Plant.* vol. ii. p. 308.)

---

HELIPTERUM *splendidum*; herba annua, glabra, erecta, 9-18 poll. alta, caulibus gracilibus simplicibus superne aphyllis monocephalis, foliis glaucis sessilibus linearibus maximis sesquipollicaribus obtusis integerrimis, capitulis erectis usque ad 3½ poll. diametro, involucri bracteis scariosis glabris multiseriatis seriebus 4 vel 5 exterioribus multo minoribus ovatis obtusis brunneis extimis minimis ceteris albis lineari-lanceolatis 1–1½ poll. longis vix acutis breviter unguiculatis ungue leviter incrassato, paucis interioribus supra prope basin anguste purpureo-zonatis, floribus numerosissimis aureis, corollis omnibus tubulosis lobis erectis, pappi setis circiter 10 longe plumosis corollam æquantibus vel superantibus, achæniis ciliato-bialatis maturis non visis.

H. splendidum, *Hemsl. n. sp.*

---

Kew is indebted to Mr. G. F. Berthoud, of Waroona, near Drakesbrook, W. Australia, for dried specimens and seeds of this handsome plant, which he labelled:—"Native of North-western Districts." There are also herbarium specimens collected in open plains at Menzies, about a hundred miles north of Coolgardie, in about 29° 30′ S. lat. and 121° E. long., by Cecil Andrews. His specimens are named *Helichrysum Davenportii*, F. Muell. There is no authenticated specimen of this at Kew, but Bentham (*Fl. Austral.* vol. iii. p. 616) places it as a variety of *Helichrysum Lawrencella*, F. Muell. (syn. *Lawrencella rosea*, Lindl.), remarking that he was disposed to rank it as a distinct species. Mueller (*Fragm. Phytogr. Austral.* vol. iii. p. 32) refers it to what he denominates section *Acroclinium* of *Helichrysum*, from which it would appear that, at that date, he contemplated uniting *Helipterum* with *Helichrysum*.

As a matter of fact our plant is most nearly related to *Helipterum roseum*, Benth. (syn. *Acroclinium roseum*, Hook., Bot. Mag. t. 4801), from which Mueller's description differs in essential particulars.

*H. splendidum* is indeed a very showy member of the

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Australian "Everlastings," and if its cultivation in pots should prove as easy as that of *Helipterum Manglesii*, F. Muell. (syn. *Rhodanthe Manglesii*, Lindl., "Botanical Register," t. 1703) there is a big future before it. Several varieties of the latter are represented in this Magazine. The typical form (t. 3483) is perhaps the prettiest, and tt. 5283 and 5290 are colour variations of an ornamental character.

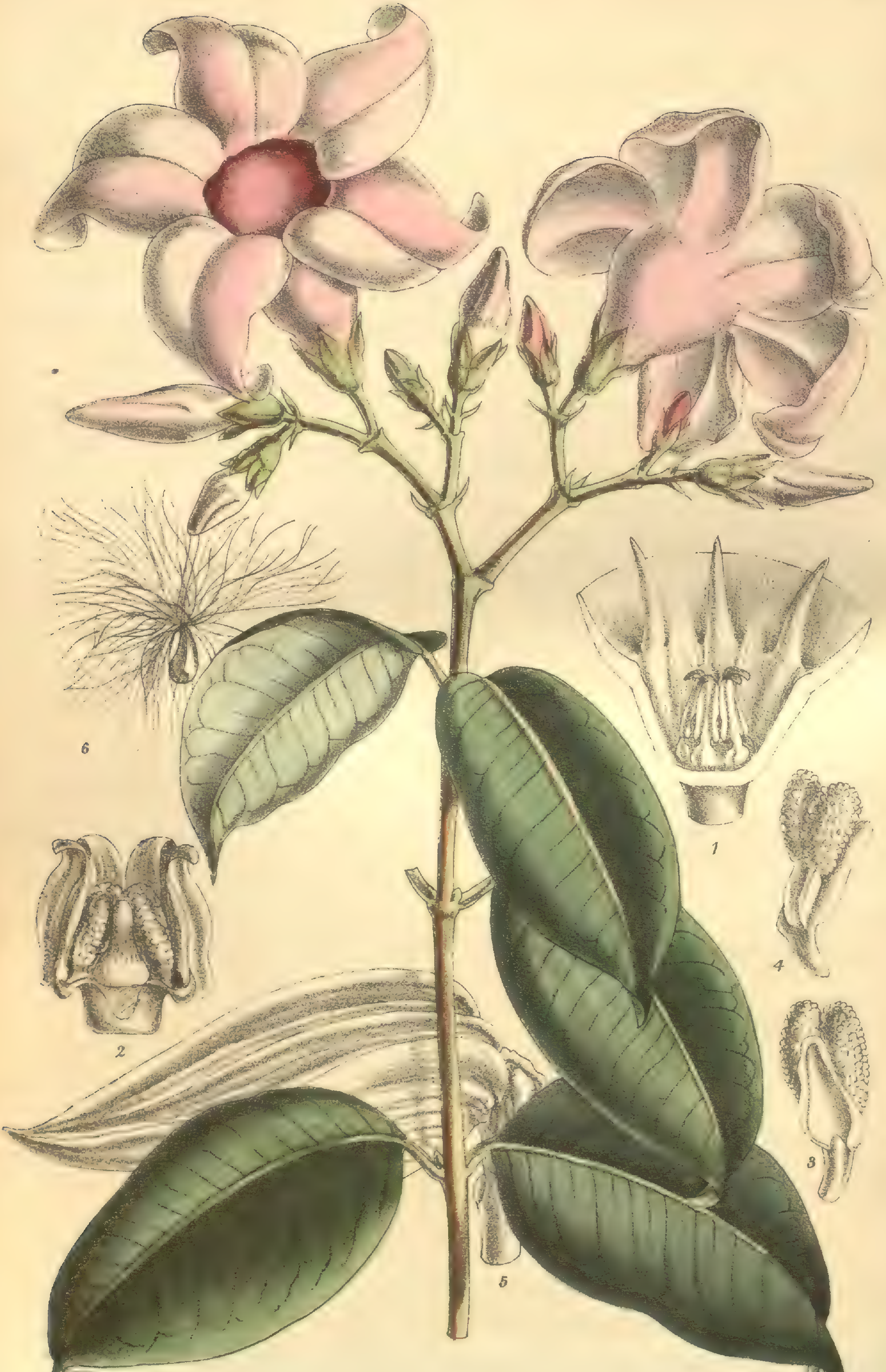
Unfortunately the plants raised at Kew flowered in April, and under unfavourable conditions, as to sunlight, produced no seed.

*Descr.*—An annual, glabrous, erect herb, nine to eighteen inches high. *Stems* slender, simple, leafless in the upper part bearing one head of flowers. *Leaves* alternate, sessile, glaucous, linear, the largest an inch and a half long, obtuse, entire. *Flower-heads* erect, the largest three inches and a half across. *Bracts* of the involucre glabrous, scarious, in very many series, those of the four or five outer series much smaller than the inner, ovate, obtuse, brown, outermost very small, the rest white, linear-lanceolate, one inch to one and a half long, scarcely acute, shortly clawed, claw thickened, a few of the innermost having a narrow, purple band on the upper surface near the base. *Flowers* very numerous, all tubular, yellow. *Corolla-lobes* erect. *Pappus* of about ten very feathery bristles, equalling or slightly exceeding the corolla. *Achenes* 2-winged; wings fringed.—*W. B. H.*

---

Fig. 1, a flower; 2, anthers; 3, upper part of style and stigmas:—*all enlarged.*

7984



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# TAB. 7984.

# CRYPTOSTEGIA MADAGASCARIENSIS.

*Native of Madagascar.*

---

Nat. Ord. ASCLEPIADACEÆ.—Tribe PERIPLOCEÆ.

Genus CRYPTOSTEGIA, *R.Br.*; (*Benth. et Hook. f. Gen. Plant.* vol. ii. p. 742.)

---

CRYPTOSTEGIA, *madagascariensis*; species a *C. grandiflora* petiolis brevioribus viridibus floribus minoribus intus sanguineo-purpureis coronæ squamis indivisis diversa; frutex scandens, glaber, ramis sæpius verrucosis, foliis breviter petiolatis coriaceis lanceolatis ovatis ellipticis vel interdum fere orbicularibus 2–4 poll. longis obtuse acuminatis basi rotundatis subtus pallidioribus venis ultimis minute reticulatis, floribus in cymas terminales dispositis distincte pedicellatis 2½–3 poll. diametro, bracteis squamiformibus cito deciduis, calycis lobis ovatis acutis, corollæ lobis tubo ampliato longioribus ovato-lanceolatis acutis recurvis, coronæ squamis 5 subulatis infra tubi medium insertis occultis (unde nomen genericum), pollinis massis in utroque loculo geminis appendicibus spathulatis applicitis, folliculis lignosis cymbiformibus circiter tripollicaribus divaricatis acutis, seminibus numerosissimis longe copioseque plumosis.

C. madagascariensis, *Bojer, Cat. Hort. Maurit.* (1837), p. 212, nomen nudum. *Decne. in DC. Prodr.* vol. viii. p. 492. *Miq. Choix de Plantes Rares*, t. 9. *Jumelle, Les Plantes à Caoutchouc*, p. 264, ff. 28, 29; *Rev. Gén. de Bot.* 1901, p. 394.

---

The genus *Cryptostegia* was founded by R. Brown in the "Botanical Register," vol. v. (1820) t. 435, on a cultivated plant, previously published, but not described, by Roxburgh, under the name of *Nerium grandiflorum*. Roxburgh records his plant as a native of India, discovered by Dr. B. Heyne in 1804; but most subsequent writers declare that it exists in India only under cultivation or as a colonist. Other writers record it as wild and common in certain districts in the Madras Peninsula. There are no undoubtedly wild specimens of *C. grandiflora*, R. Br., in the Kew Herbarium; but there are cultivated specimens from Mauritius, Natal, Khartoum, Jamaica, and from the most distant parts of India. It is also in cultivation at the present time at Kew.

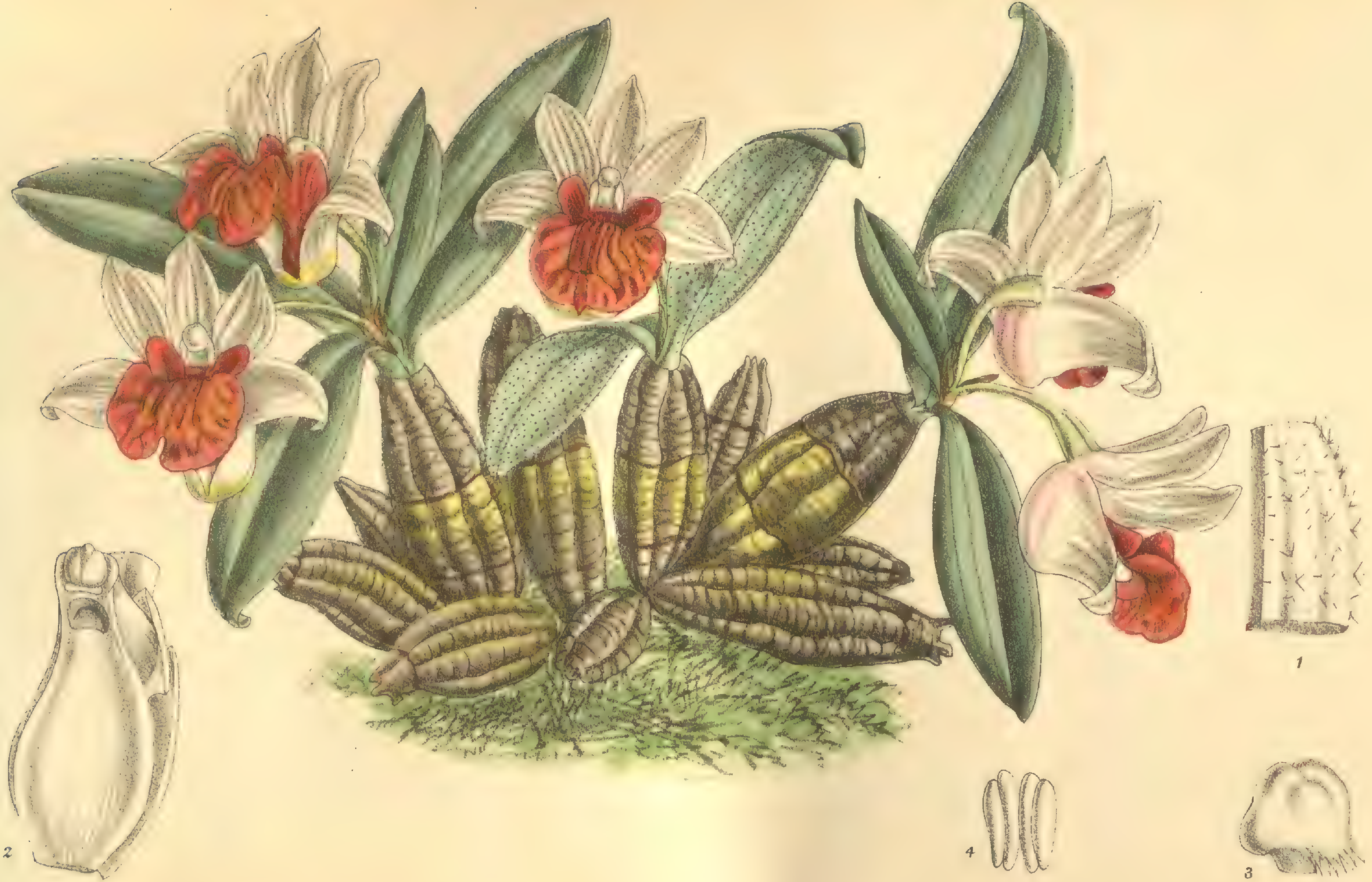
*C. madagascariensis*, Bojer, is the only other species known, and, until comparatively recently, only from cultivated specimens; but now Kew possesses dried specimens from various parts of Madagascar, besides cultivated ones from this country, Hong Kong, and Cape Town. The two are very much alike in general characters, and the names are sometimes interchanged in gardens. This is partly due to the fact that the differences have been misunderstood. When in flower there is no difficulty, the flowers of *C. grandiflora*, although somewhat larger, are of a lilac-purple, and the staminodes or lobes of the corona are very deeply divided into two filiform segments.

The date of introduction of *C. madagascariensis* into England is given as 1826, but it has always been rare. Our plate was drawn from a plant that flowered at Kew in May and June of the present year. It is a very beautiful thing, and if it should prove free-flowering, it would well deserve a place in a hot-house, as it flowers when quite small.

*Descr.*—A climbing, glabrous shrub; branches often beset with small, warty excrescences. *Leaves* shortly stalked, leathery, varied in outline from lanceolate to almost orbicular, two to four inches long, obtusely acuminate, rounded at the base, paler beneath; ultimate veinlets very finely reticulated. *Flowers* in terminal cymes, distinctly stalked, two inches and a half to three inches across. *Bracts* scale-like, falling away early. *Calyx-lobes* ovate, acute. *Corolla-lobes* longer than the funnel-shaped tube, ovate-lanceolate, acute, recurved. *Corona-lobes* five, subulate, attached below the middle of the corolla-tube and invisible from the outside. *Pollen-masses* in pairs in each cell, each pair attached to a spathulate appendage. *Fruit* composed of two divergent, boat-shaped carpels containing numerous small seeds furnished with a cluster of long, soft hairs at one end.—*W. B. H.*

---

Fig. 1, section of the lower part of a flower showing the insertion of the corona-lobes; 2, longitudinal section of the androecium; 3, a pair of pollinia attached to the scale; 4, anterior view of the same; 5, one of the two carpels of which the fruit is composed; 6, a seed:—*all except* 5 *enlarged.*



7985

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# TAB. 7985.

## DENDROBIUM BELLATULUM.

*Native of China.*

---

Nat. Ord. ORCHIDACEÆ.—Tribe EPIDENDREÆ.

Genus DENDROBIUM, *Swartz*; (*Benth. et Hook. f. Gen. Plant.* vol. iii. p. 498.)

---

DENDROBIUM (§ Formosæ—Nigro-hirsutæ) *bellatulum*; planta nana, cæspitosa, pseudobulbis florentibus $\frac{1}{2}$–2 poll. altis, fusiformibus longitudinaliter rugoso-costatis 2–4-phyllis 1–3-floris foliisque primum plus minusve nigro-hirsutis, foliis oblongis vel ovato-oblongis $\frac{1}{2}$–2 poll. longis apice oblique obtuseque bidentatis, floribus axillaribus cum pedicello quam foliis brevioribus $1\frac{1}{2}$–2 poll. diametro, sepalis petalisque albis, labello miniato, sepalis lateralibus elongato-triangularibus acutis, sepalo postico lanceolato, petalis spathulatis apice rotundatis apiculatis, labello-pandurato-trilobo lobis lateralibus rotundatis lobo intermedio latissime obcordato-bilobo disco medio obtuse 5-costato costis tuberculoso-verrucosis, mento saccato obtuso.

D. bellatulum, *Rolfe in Journ. Linn. Soc. Bot.* vol. xxxvi. (1903), p. 10; *Orch. Rev.* vol. xi. (1903), p. 103; vol. xii. (1904), p. 135; *Gard. Chron.* 1904, vol. i. p. 258; 1904, vol. ii. p. 114, f. 47.

---

This charming little *Dendrobium* is closely related to the recently figured *D. Williamsoni*, Reichb. f. (B. M. t. 7974) in structural and vegetative characters, but it is very different in its dwarf habit. The species was based upon copious dried specimens, collected by Dr. A. Henry, in 1898, at Mengtze, in the Province of Yunnan, at an elevation of 5,000 ft. It was found in the forest to the south-east of Mengtze, growing on trees. In 1900, previous to the publication of the description of the species, Messrs. James Veitch & Sons presented living plants to Kew, sent home by their collector, Mr. Wilson. It was subsequently discovered by Mr. W. Micholitz, collector for Messrs. Sander & Sons, of St. Albans, at Lang Bian, Anam, at an elevation of 4,500 to 5,000 ft. The plant presented by Messrs. Veitch flowered some time ago, but not freely, and the plate was prepared from a more robust tuft presented by Messrs. Sander. It flowered in April, and although very pretty, it was evidently not at its best, nor equal to Dr. Henry's wild specimens, in which the unexpanded flowers are an inch and a half long, and those flattened out are two inches and a half from the tip of the

NOVEMBER 1ST, 1904.

lip to the tips of the petals. Judging from the altitude at which it flourishes, it requires cool treatment.

*Descr.*—A densely tufted plant, two to four inches high. *Bulbs* fusiform, longitudinally ribbed, ribs rounded and uneven, two- to four-leaved, one- to three-flowered. *Leaves* leathery, at first more or less beset with black hairs, ovate-oblong, one and a half to two inches long, obliquely and obtusely two-toothed at the tip. *Flowers* axillary, slightly overtopped by the leaves, one inch and a half to two inches in diameter, white with a vermilion lip. *Sepals* acute, lateral elongate-triangular, dorsal lanceolate. *Petals* spathulate, rounded at the tip. *Lip* three lobed; lateral lobes short, rounded; intermediate lobe broadly obcordate, recurved; disc traversed by five warty ribs; sac obtuse.—*W. B. H.*

Fig. 1, portion of upper surface of a leaf; 2, column; 3, anther-cap; 4, pollen:—*all enlarged.*

7986

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# Tab. 7986.

# IRIS BISMARCKIANA.

*Native of Palestine.*

---

Nat. Ord. Iridaceæ.—Tribe Moræeæ.

Genus Iris, *Linn.*; (*Benth. et Hook. f. Gen. Plant.* vol. iii. p. 686.)

---

Iris (Oncocyclus) *bismarckiana*; herba circa 18 poll. alta, rhizomate brevi, foliis ensiformibus ad 9 poll. longis et 1 poll. latis glaucis, scapo unifloro, spathis lanceolatis viridibus 3 poll. longis, perianthii segmentis exterioribus late ovatis acutis 2½ poll. longis fere 2 poll. latis luteis dense brunneo-purpureo maculatis medio macula purpureo-fusca 7 lin. diam. notatis, segmentis interioribus orbicularibus 2½ poll. diam. unguiculatis dilute cæruleis venis maculisque lilacinis, stigmatibus oblongis cristis 8 lin. longis colore perianthii segmentis exterioribus similibus.

I. bismarckiana, *Dammann ex Wien. Ill. Gartenzeit.* 1890, p. 352, fig. 72; *Dammann, Catal.* 1892, p. 25, fig. 26; *Baker, Handb. Irideæ*, p. 18.

I. bismarkiana, *Sprenger in Gard. Chron.* 1904, vol. ii. p. 222.

---

The *Oncocyclus* section of *Iris*, which is characterized by the outer perianth-segments being diffusely hairy on the claw and lower part of the blade, contains the most conspicuous species of the genus. On this account many, which have been brought into cultivation, have had specific names given to them on very slight differential characters. The most widely cultivated species of this section, as well as the largest-flowered one of the genus, is *I. susiana*, Linn. (B. M. t. 91), while closely allied is *I. Gatesii*, Foster (t. 7867), which differs from the present plant in the absence of a distinct blotch or "signal" on the outer perianth-segments. *I. Sari*, var. *lurida*, Boiss. (t. 6960) is a dwarf plant with smaller flowers than *I. bismarckiana*, and has the anther-cells adnate to the filament, instead of being inserted in a small pit on the back of the anther near its base. *I. Lortetii*, Barbey (t. 7251) much resembles this species, but it has short, truncate, dentate style-arms.

*I. bismarckiana* was introduced from Lebanon in 1888 by Messrs. Dammann & Co., of Naples, but, like most species of the section *Oncocyclus* from Palestine, is somewhat difficult to cultivate. The plant here figured was

purchased from Mr. Georg Egger of Jaffa, and flowered in the Alpine House at Kew in May, 1904.

*Descr.*—A perennial herb about eighteen inches high. *Rhizome* short. *Leaves* ensiform, glaucous, the largest nine inches long and one inch wide. *Scape* one-flowered; spathes lanceolate, green, three inches long. *Perianth-segments*: outer broadly ovate, acute, two inches and a half long, nearly two inches wide, yellowish, densely spotted with purple-brown and marked in the centre with a similarly-coloured spot (signal) seven lines in diameter; inner orbicular, clawed, two inches and a half in diameter, pale blue, with numerous lilac veins which bear spots towards the margin of the blade. *Stigmas* oblong; crests triangular, eight lines long, similar in colour to the outer perianth-segments.—*C. H. Wright.*

Figs. 1 and 2, anthers; 3, portion of style-arm:—*all enlarged.*

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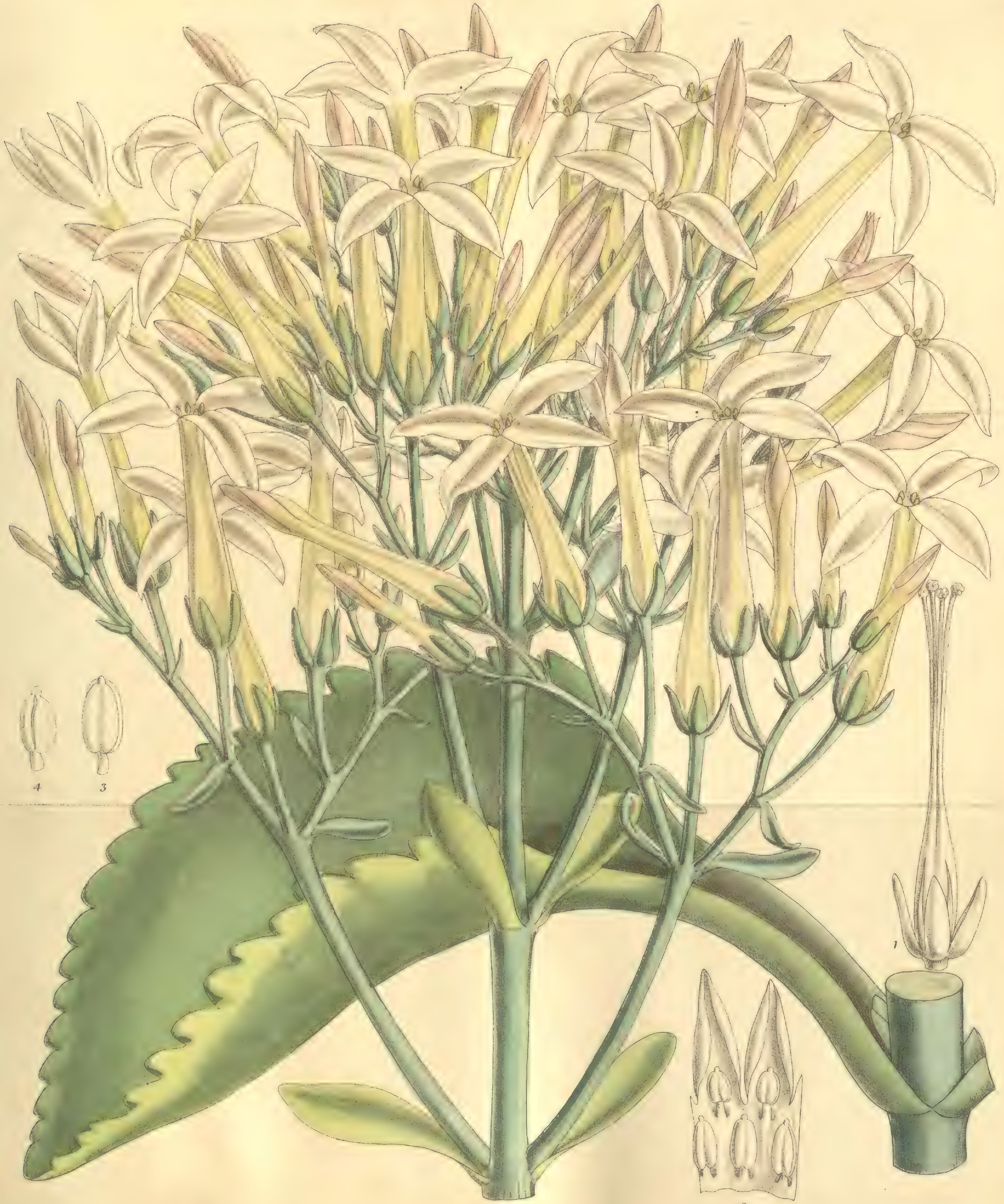

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# TAB. 7987.

# KALANCHOE DYERI.

*Native of Nyasaland.*

---

Nat. Ord. CRASSULACEÆ.

Genus KALANCHOE, *Adans.*; (*Benth. et Hook. f. Gen. Plant.* vol. i. p. 659.)

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KALANCHOE *Dyeri*; herba succulenta, 2–2½ ped. alta, glabra, plus minusve glauca, foliis oppositis petiolatis ellipticis obtusis basi rotundatis vel cuneatis margine grosse crenato-dentatis petiolo 1½–3 poll. longo alte canaliculato lamina 4–7½ poll. longa 2½–5 poll. lata, foliis superioribus bracteisque multo minoribus spathulato-obovatis vel lanceolatis obtusis vel subacutis integris, floribus tetrameris pedicellatis in cymas corymbosas terminales dispositis, sepalis 3½–6 lin. longis deltoideo-lanceolatis obtusis, corollæ tubo 1¾–2 poll. longo basi 4-angulato pallide viridi, limbi lobis ¾–1 poll. longis lanceolatis acutis albis, staminibus 8 biseriatis filamentis brevissimis antheris parvis luteis superioribus breviter exsertis, glandulis hypogynis filiformibus apice plus minusve bifidis albis, carpellis lineari-lanceolatis in stylos longos filiformes attenuatis glabris stigmatibus capitatis.

K. Dyeri, *N.E. Brown in Gard. Chron.* 1904, vol. i. p. 354.

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This species of *Kalanchoe* is one of the finest that has yet been introduced into cultivation. It is allied to *K. marmorata*, Baker (B. M. t. 7333), *K. somaliensis*, Baker (t. 7831), and *K. longiflora*, A. Rich. These four handsome species are all natives of tropical Africa, and form a distinct group, characterized by their large, long-tubed, white flowers.

*K. Dyeri* was raised at Kew from seeds sent in 1902, from Nyasaland, by Mr. J. McClounie, Director of the Scientific Department of British Central Africa. The plants first flowered in April, 1904, and have ripened seeds, from which young plants have been raised.

*Descr.*—Plant two feet to two feet and a half high, with a stout stem about three-quarters of an inch thick at the base, glabrous in all parts and more or less glaucous on the green parts. *Leaves* opposite, very spreading, petiolate; petiole one and a half to three inches long, four and a half to six lines broad and nearly as thick, sub-terete, slightly flattened above, dilated at the base, green, slightly tinted with purple and speckled with white; blade four to seven and a half inches long, two and a half to five inches broad, elliptic, obtuse, rounded or cuneate at the base, with irregular, obtuse teeth, two to three lines long, four to six lines broad, flat or with the sides more or less incurved, green, with a purplish tint on the midrib and principal veins above; leaves and bracts on the inflorescence half to two inches long, spathulate-obovate to lanceolate, sub-acute or obtuse, entire. *Inflorescence* a terminal, corymbose cyme nine to twelve inches long, six to nine inches across, with three or four pairs of three- to ten-flowered, sub-erect branches. *Pedicels* eight to nine lines long, three-quarters to one line thick. *Sepals* three and a half to six lines long, half to two lines broad at the base, thence tapering to an obtuse point. *Corolla*-tube one and three-quarters of an inch long, three and a half to four lines square at the base, pale green; lobes very spreading, one inch long, four and a half to five lines broad, lanceolate, acute, pure white. *Stamens* eight, inserted near the top of the tube, the four lower included, the four upper just exserted from the mouth of the tube; filaments three-quarters to one line long; anthers small, half to three-quarters of a line long. *Hypogynous glands* five lines long, filiform, more or less bifid at the apex, white. *Carpels* with a linear-lanceolate ovary three-quarters of an inch long, sub-quadrate in transverse section, tapering into a filiform style eleven lines long, all twisted together at the base, green; stigmas capitate, white.—*N. E. Brown.*

Fig. 1, calyx, hypogynous glands and carpels; 2, part of the top of an unopened corolla and stamens; 3 and 4, stamens:—*all enlarged.*

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M. S. del. J. N. Fitch lith.

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# TAB. 7988.

# CYDONIA SINENSIS.

*Native of China.*

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Nat. Ord. ROSACEÆ.—Tribe POMACEÆ.

Genus CYDONIA, *Tourn.*; (*Benth. et Hook. f. Gen. Plant.* vol. i. p. 626, *sub* Pyro).

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CYDONIA *sinensis;* arbor parva, tortuoso-ramosa, foliis petiolatis adultis crassiusculis ovatis vel obovatis cum petiolo usque ad 4 poll. longis (in ramis florigeris sæpius minoribus lanceolatisque) acutis basi cuneatis petiolo marginibusque glanduloso-serrulatis glabrescentibus, stipulis pedatis cito deciduis oblongo-lanceolatis 3–4 lin. longis margine glandulosis basi utrinque lobis binis parvis deflexis instructis lobis exterioribus minutis, pedunculis brevibus unifloris basi bracteis numerosis ovato-oblongis circiter semipollicaribus margine glandulosis ornatis, floribus circiter 1½ poll. diametro, calycis segmentis ovato-lanceolatis 3–4 lin. longis acutis recurvis margine glandulosis præcipue intus albo-lanatis, petalis obovato-oblongis 7–8 lin. longis apice rotundatis roseis basi albis et rubro-zonatis, staminibus uniseriatis quam petalis dimidio brevioribus stylos excedentibus, ovario 5-loculari, stylis glabris medio connatis, stigmatibus capitatis, fructu oblongo-ovoideo circiter 6 poll. longo aureo, seminibus numerosissimis subtriangularibus uno angulo rotundato compressis 3–4½ lin. longis brunneis opacis lævibus.

C. sinensis, *Thouin in Ann. du Mus. d'Hist. Nat. de Par.* vol. xix. (1812), pp. 144–153. tt. 8 *et* 9. *Desf. Cat. Hort. Par.* 1815, p. 200. *DC. Prodr.* vol. ii. p. 638. *Duhamel, Traité des Arbres et Arbustes*, vol. vi. t. 75. *Herbier Général de l'Amateur*, vol. ii. t. 75. *Rev. Hort.* 1889, p. 228, *cum ic. color. W. B. H. in Kew Bulletin*, 1899, p. 224. *Wien. Illustr. Gart. Zeit.* vol. xxvi. (1901), p. 207, t. 2. *Hemsl. in Hook. Ic. Pl. sub* tt. 2657-8.

C. chinensis, *Lindl. Bot. Reg.* vol. xi. (1825), t. 905.

Pyrus sinensis, *Poir. in Lam. Encycl. Suppl.* vol. iv. p. 452, *non Lindl. nec Auctor. alior. plurim.*

P. cathayensis, *Hemsl. in Journ. Linn. Soc. Bot.* vol. xxiii. (1887), p. 256, *pro parte.*

P. chinensis, *Spreng. Syst.* vol. ii. p. 510.

P. chinensis, *Roxb. Fl. Ind.* vol. ii. p. 511.

Chænomeles chinensis, *Kœhne, Dendrol.* p. 262.

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This quince was originally described and figured in black and white, by Thouin, from a tree in the Jardin des Plantes, Paris, and he states that it was introduced into England and Holland during the last decade of the eighteenth century. We find no confirmation of this statement, and Lindley seems to have been the first to

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publish an account of it in this country—see the reference above.

Subsequently another species was introduced from China, and it was for many years cultivated at Kew under the same name, the genuine plant having apparently disappeared from our gardens. The confusion of the two species extended to the literature of the subject, including the Enumeration of Chinese plants (*Journ. Linn. Soc. Bot.* vol. xxiii. p. 256), under *Pyrus cathayensis*, Hemsl., where, however, it is mentioned that the plant cultivated at Kew had much narrower, less hairy leaves than that originally described and cultivated in Europe.

In 1899 the Director of Kew brought a ripe quince, of the species here figured, from the garden of Sir Thomas Hanbury, at La Mortola, near Ventimiglia, which led to further investigations, and the publication in Hooker's "Icones Plantarum" (tt. 2657 and 2658) of *Cydonia cathayensis*, Hemsl., as distinguished from *C. sinensis*, Thouin.

In April of the present year a young plant of the latter flowered at Kew, and thus gave us an opportunity of completing the description and illustration of the two species.

*C. sinensis* is a very pretty plant for the conservatory in spring; but, as Mr. Ed. André observes, it requires such a climate as the Mediterranean to reach perfection. There it is extensively grown, as it is ornamental, whether in flower or fruit. Like all other quinces, it is not a dessert fruit, but associated with other fruit, in tarts or as a marmalade, it is very palatable, though perhaps not to those who cannot relish a new thing in flavours. In the south the foliage assumes beautiful autumnal tints.

*C. cathayensis*, Hemsl., differs from *C. sinensis*, Thouin, in having lanceolate, eglandular leaves; large, foliaceous stipules; erect, rounded calyx-lobes, and a much smaller fruit.

There is such a confusion of names under *Pyrus* and *Cydonia* that it may be useful to mention that *Pyrus sinensis*, Lindl. (*Bot. Reg.* t. 1248, *chinensis* in letterpress) is a true pear, and that *P. sinica*, Royle, is the same species. *Pyrus chinensis*, Roxb. (*Fl. Ind.* vol. ii. p. 511), is another synonym of that species. *Pyrus sinensis*, Dum.

(*Cours*, ed. 2, vol. v. p. 429), is, on the authority of Decaisne (*Nouv. Arch. du Mus.* vol. x. p. 154) the same as *Pyrus spectabilis*, Ait.

There are no wild specimens of *C. sinensis* in the Kew Herbarium, and the only Chinese specimen was presented by Dr. Shearer in 1875. His label runs thus: "Mul Kwa=wooden cucumber, from its solidity and shape, now fruiting, June, 1872. The large, fragrant fruit is said to be used for scenting tea and flavouring wine. The bark is olive-green, with bald patches, and the trunk thick and contorted. Growing in tubs, it is indeed a very handsome shrub."

The only other species of *Cydonia* figured in this Magazine is the well-known, rich-coloured *C. japonica*, Pers. (t. 692).

*Descr.*—A shrub or small, tortuously-branched tree. *Leaves* petiolate, becoming leathery and glabrous, lanceolate on the flowering branches, obovate and larger on the barren branches, three to four inches long, glandular-toothed as well as the petioles; stipules falling early, pedate, glandular on the margin; basal lobes very small. *Peduncles* short, one-flowered, furnished at the base with numerous, oblong bracts. *Flowers* about one inch and a half in diameter. *Calyx-lobes* ovate-lanceolate, three to four lines long, acute, recurved, glandular on the margin, woolly on the upper surface. *Petals* obovate-oblong, rounded, seven to eight lines long, pink, white at base, with a zone of a deeper red. *Stamens* half as long as the petals, and slightly longer than the styles. *Ovary* five-celled; styles glabrous, consolidated to the middle; stigmas capitate. *Fruit* oblong-ovoid, about six inches long, deep yellow. *Seeds* very numerous, nearly triangular, with one obtuse angle, flattened, three inches to four inches and a half long, dull brown.—*W. B. H.*

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Fig. 1, section of a flower from which the petals have been removed, showing the numerous ovules:—*enlarged.*

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M.S. del. J.N. Fitch lith.

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# Tab. 7989.

# LONICERA SYRINGANTHA.

*Native of North-West China.*

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Nat. Ord. Caprifoliaceæ.—Tribe Loniceræ.

Genus Lonicera, *Linn.* (*Benth. et Hook. f. Gen. Plant.* vol. ii. p. 5.)

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Lonicera (Isoxylosteum) *syringantha*; frutex ramosissimus, circa 4 ped. altus, ramis tenuibus quadrangularibus glabris, foliis ovalibus vel ovatis obtusis rarius subacutis basi rotundatis vel subcordatis usque ad 9 lin. longis et 4 lin. latis glabris, petiolis 2 lin. longis gracilibus, floribus geminatis, pedunculis 4–6 lin. longis, bracteis lanceolatis breviter petiolatis quam calycibus paullo longioribus, bracteolis in cupulam connatis margine crenulatis, calycibus 3 lin. longis, segmentis lanceolatis quam tubo paullo brevioribus, corollis hypocrateriformibus pallide roseis intus pilosis, tubo 4 lin. longo, lobis ovalibus obtusis 3 lin. longis, antheris subsessilibus apiculatis tubi medium vix superantibus, baccis liberis ovoideis 4 lin. longis coccineis.

L. syringantha, *Maxim. in Bull. Acad. Pétersb.* vol. xxiv. (1878) p. 49; *Mél. Biol.* vol. x. (1877) p. 77. *Hemsl. in Journ. Linn. Soc.* vol. xxiii. p. 367. *Wolfe in Gartenfl.* vol. xli. (1892) p. 564, figs. 115-116. *Rehder in Rep. Missouri Bot. Gard.* 1903, p. 46.

Lonicera rupicola, *var.* syringantha, *Zabel in Beissn. Schelle & Zabel, Handb. Laubholz-Benen.* p. 462 (1903).

Caprifolium syringanthum, *O. Kuntze, Rev. Gen. Plant.* vol. i. (1891) p. 274.

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Rehder, in his monograph of *Lonicera* (*l.c.*), classifies the 154 species known to him in two sub-genera, viz.:—*Chamæcerasus*, in which the 2-flowered, usually peduncled cymes are borne in the axils of the leaves, which are never connate; and *Periclymenum*, in which the 3-flowered, sessile cymes are arranged in spikes or whorls at the ends of the branches and the bases of the upper leaves are usually connate. Of the 131 species of *Chamæcerasus*, eight constitute a well-marked section, which Rehder has named *Isoxylosteum*, to which *L. syringantha* belongs. Unlike most species of *Lonicera*, those belonging to this section have the corolla perfectly regular, with a comparatively short, straight tube. Two such species have already been figured in this work, namely: *L. tomentella*, Hook. f. & Thoms. (t. 6486), and *L. Alberti*, Regel (t. 7394); the latter Rehder regards as a variety of *L. spinosa*, Jacquem. Both of them differ from

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the present plant in the shortness of their calyx-lobes, while the former has the lower part of the corolla-tube pilose outside, and the latter has linear, obtuse leaves, about an inch long.

The plant here figured was received at Kew in 1894 from the St. Petersburg Botanic Gardens. It forms a compact bush, which has proved quite hardy, flowering freely in May, and ripening its fruit in July.

*Descr.*—A much-branched shrub, about four feet high. *Branches* slender, quadrangular, glabrous. *Leaves* oval or ovate, obtuse, more rarely sub-acute, rounded or slightly cordate at the base, largest nine lines long and four lines wide, glabrous; petioles slender, two lines long. *Flowers* in pairs; peduncles four to six lines long; bracts lanceolate, shortly stalked, a little longer than the calyx; bracteoles connate into a crenulate cup. *Calyx* three lines long; segments lanceolate, a little shorter than the tube. *Corolla* hypocrateriform, pale rose-coloured, pilose inside; tube four lines long; lobes oval, obtuse, three lines long. *Anthers* sub-sessile, apiculate, inserted just above the middle of the corolla-tube. *Berries* free, ovoid, four lines long, red.—*C. H. Wright.*

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Fig. 1, pair of flowers with corollas removed; 2, corolla laid open; 3 and 4, anthers; 5, transverse section of ovary; 6, branch with fruit:—*all except* 6 *enlarged.*

7990

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## TAB. 7990.

# × ODONTIODA VUYLSTEKEÆ.

*Of Garden Origin.*

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Nat. Ord. ORCHIDACEÆ.—Tribe VANDEÆ.

ODONTIODA, *genus inter Odontoglossum et Cochliodam hybridum.*

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ODONTIODA *Vuylstekeæ*; pseudobulbis ovoideis, foliis circiter 3 floribus coætaneis auguste lanceolatis acutis 6–9 poll. longis recurvis, scapo foliis breviore suberecto 6-floro, floribus circiter 2½ poll. diametro, sepalis petalis similibus ovato-lanceolatis vix acutis leviter undulatis basi sanguineis supra medium albidis rubro-maculatis margine roseis, labello panduriformi petalis dimidio breviore basi aureo lobis lateralibus rotundatis sanguineis lobo intermedio latiore rotundato sinuato albo sanguineo-maculato, polliniis non visis.

Odontioda Vuylstekeæ, *Gard. Chron.* 1904, vol. i. p. 360, f. 159. *Orch. Rev.* vol. xii. (1904), pp. 189, 209, f. 34. *Gard. Mag.* 1904, p. 376, cum fig. *Journ. Hort.* 1904, vol. i. p. 487, cum fig. *The Garden*, vol. lxv. (1904), p. 433, cum fig.

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Under tab. 7980 we gave some particulars of bigeneric orchids with references to the literature of the subject. *Odontioda* is recorded as the result of a cross between *Odontoglossum nobile*, Reichb. f., in "Linnæa," vol. xxii. (1849), p. 850 (syn. *O. Pescatorei*, Linden, ex Lindl. in Lindley & Paxton's "Flower Garden," vol. iii. p. 83, t. 90), and *Cochlioda Noetzliana*, Rolfe (B. M. t. 7474), but it is not stated which was the seed parent. Judging from other crosses of a similar kind, we venture to suggest that it was the *Odontoglossum*, the bulbs and leaves being very similar, and the flowers also, in shape. Indeed the only obvious feature derivable from the *Cochlioda* is the colour. But a writer in the "Orchid Review" says: "Beside the brilliant colour and partially adnate lip, there is a trace of connexity about all the segments which also shows the influence of the *Cochlioda* parent."

*Odontioda* was raised by Mr. Ch. Vuylsteke, of Loochristi, Ghent, and he exhibited the spike of flowers at the Temple Show, last May. It caused great excitement, and was the centre of attraction, and the judges marked their appreciation by awarding it a First-class Certificate and a silver-gilt Lindley medal. Miss Smith made a sketch of

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the 'spike on the spot, and Mr. Vuylsteke gave us a flower, which has preserved its colour to a remarkable extent, and he subsequently furnished a photograph of the plant, so that we are able to give its habit. Judging from this it is a free-growing subject.

We understood that a very high price was asked for it, and one gentleman told us that he had offered £200; but it did not change hands.

*Descr.*—Plant about a foot high. *Bulbs* ovoid, bearing about three leaves at the same time as the flowers. *Leaves* narrow, lanceolate, acute, six to nine inches long, recurved. *Flower-spike* shorter than the leaves, nearly erect, six-flowered. *Flowers* about two inches and a half across. *Sepals* and *petals* similar, ovate-lanceolate, slightly undulate, crimson at the base, white above the middle, and spotted with red, pink around the margin. *Lip* fiddle-shaped, half the length of the petals, yellow at the base; lateral lobes rounded, crimson; front lobe broader, rounded, waved, white, spotted with crimson.—*W. B. H.*

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Fig. 1, reduced representation of the plant of *Odontioda Vuylstekeæ*; 2, a flower of *Odontoglossum nobile*; 3, a flower of *Cochlioda Noetzliana*:—both natural size, from plants exhibited with the hybrid.

7991

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# TAB. 7991.

## TULIPA BATALINI.

*Native of Turkestan.*

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Nat. Ord. LILIACEÆ.—Tribe TULIPEÆ.

Genus TULIPA, *Linn.* (*Benth. et Hook. f. Gen. Plant.* vol. iii. p. 818.)

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TULIPA *Batalini*; herba glabra, bulbo globoso tunica papyracea apice intus fusco-lanata, caule 3–4 poll. alto, foliis caulinis circa 7 lineari-lanceolatis acuminatis usque ad 7 poll. longis et 6 lin. latis superioribus sensim minoribus, pedunculo unifloro 2–4½ poll. longo, glabro, floribus pallide flavis, perianthii segmentis 1½ poll. longis exterioribus oblongo-ovatis acutis interioribus late obovatis quam exterioribus minus acutis, filamentis 3 lin. longis glabris, antheris luteis, stigmate quam ovario paullo latiore.

T. Batalini, *Regel in Gartenfl.* 1889, p. 506, t. 1307, fig. 2. *Gard. Chron.* 1889, vol. ii. p. 469; 1896, vol. i. p. 759, fig. 131.

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In 1876 Regel (*Fl. Turkest.* vol. i. p. 132) enumerated eleven species of *Tulipa* as native of Turkestan. Since then various collectors, stimulated by the desire of obtaining new hardy plants, have visited that region, and succeeded in adding several new species to Regel's list, amongst them the plant under consideration, which was discovered by the late Dr. Batalin, formerly Director of the Botanic Gardens, St. Petersburg. Bulbs were first received from St. Petersburg in 1888, and have flowered annually in April or May in the herbaceous ground at Kew, our figure having been made in May last.

*Tulipa* is a very natural genus, and the species therefore difficult of discrimination. This difficulty has been increased, both by the variation of the species under cultivation, and by the slight grounds on which specific names have been given for commercial purposes. The flowers here depicted are larger than those in Regel's figures, and have anthers longer in proportion to the size of the filaments; but, considering the length of time the plant has been in cultivation, and that it is derived from material authentically named, we hesitate to apply to it a new name. It bears a certain amount of resemblance to *T. sylvestris*, Linn. (B. M. t. 1202), which differs in having the perianth greenish outside, and the filaments pilose towards the base.

*Descr.*—A glabrous herb. *Bulb* globose; tunic thin, beset with brown hairs inside at the apex. *Stem* three to four inches high. *Leaves* cauline, about seven, linear-lanceolate, acuminate, the longest seven inches long and six lines wide, the upper gradually smaller. *Peduncle* one-flowered, two to four inches and a half long, glabrous. *Flowers* pale yellow. *Perianth-segments* slightly unequal; outer oblong-ovate, acute, an inch and a half long; inner broadly obovate, as long as, but less acute than the outer. *Filaments* three lines long, glabrous; anthers yellow. *Stigma* slightly wider than the ovary.—*C. H. Wright.*

Figs. 1 and 2, anthers; 3, pistil:—*all enlarged.*

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# NOTICE.

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## CURTIS AND HOOKER'S

# BOTANICAL MAGAZINE.

## COMPLETION OF THE THIRD SERIES.

WITH much regret we have to announce the retirement of Sir Joseph Dalton Hooker, K.C.S.I., C.B., &c., from the editorship of THE BOTANICAL MAGAZINE, after forty years of indefatigable service, which advancing years will not permit him to continue longer. We can only express our high appreciation of his work, and the deep obligation we have been under to him for so long a period. We sincerely hope that he may for many years enjoy the peaceful rest he has so well earned. The present issue, therefore, completes the Third Series of the Magazine, extending to sixty volumes.

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## COMMENCEMENT OF A NEW [FOURTH] SERIES OF THE

## BOTANICAL MAGAZINE.

We are now privileged to report that arrangements have been made for the commencement of a New [Fourth] Series of THE BOTANICAL MAGAZINE under the auspices of Sir William T. Thiselton-Dyer, K.C.M.G., C.I.E., LL.D., Sc.D., F.R.S., Director of the Royal Botanic Gardens, Kew. Sir William's well-known high standing as a botanist, his interest in Horticulture, and his position at the Royal Botanic Gardens, Kew, with all the resources of that great establishment at his command, afford every possible guarantee that the high character of the Magazine will be well maintained, and, if possible, raised to a higher level of interest to the botanist and horticulturist, as well as to all lovers of the floral beauties of Nature. The vast unexplored, or only partially explored, regions of Africa, the two Americas, China and other regions of the globe present practically inexhaustible sources whence to draw new subjects to adorn its pages. We are greatly indebted to Sir William Thiselton-Dyer for his ready and generous response to our appeal. The first number of the Fourth Series will appear on January 1st, 1905.

LOVELL REEVE & CO.

*November 30th*, 1904.